Ohio Cultivator

VOL. XVIII. COLUMBUS, APRIL 1, 1862. No. 4.

Issued on the First of every Month — Terms, Fifty Cents a Year.

HARRIS & HURD, Proprietors. SULLIVAN D. HARRIS, Editor.

Field Intelligence.

For the Ohio Cultivator.

War and Agriculture.

The continuance of war has a direct tendency to increase the value of the products of agriculture. The farmers of Ohio are now turning their observations and considerations to the signs of the times, in connection with our agricultural resources, and the requirements of our country; our agricultural community were wholly unprepared for the developments produced of the first eight or nine months; and even now, as a body, we have very slight views as to the extent and indispensable requirements of our government and of our people. The late revolution in the prices of our wool, and the commencement probably, of another in our market of *cured meats*, must, as a natural consequence, effect our cattle and grain markets.

The writer has distinct recollections of some similar results in connection with our war of 1812 and '14, although at its commencement, manufacturers and mechanics were then almost unknown amongst us, even in New England; and our exports, by reason of our embargo and the war, were, for more than three years perfectly annihilated; yet our products of the soil, even then, gradually advanced in prices (in the New England and Middle States where I then resided,) to about one hundred per cent, and in certain articles even greater rates.

For thirty years past, that portion of Virginia lying west of the Blue Ridge, on the waters of the Potomac, has mainly supplied the Baltimore and Washington markets with its choicest beeves. That Kentucky for an equal period of time, has sent large numbers of superior beeves to eastern markets. But in the late excitement and alarming disturbances in that great State, she sent an *over supply* to the N. York and Philadelphia markets for successive weeks, (fearing their destruction or confiscation at home) and from these and other causes has greatly reduced her former numbers as well as her ability, for a present home supply.

Also for several years past, considerable numbers of beef cattle (mostly of ordinary quality) have annually and increasingly been sent from Missouri and Texas to both southern and eastern markets; and in addition to these, we learn from reports and publications, that the *quantity* of pork and bacon (from a scarcity of salt and other causes) cured in the above and other slave States, is very small, as compared with the amount heretofore cured there. Hence we believe, that these four large States—either in war or in peace, are at present, and will for some time to come, be unable to furnish either beef, pork, or breadstuffs, beyond their own immediate requirements for home consumption.

As regards N. and S. Carolina—Tennessee and Georgia, these have, I believe, prior to the rebellion, been enabled to furnish the greater portion of fresh and cured meats used by them. But not so, I think, in regard to Mississippi, Alabama, Southern Arkansas, Louisiana and Florida; my knowledge of them however, is mostly limited to reports and statistics contained in the census of 1860, which will enable any one to form a tolerably correct conclusion as to their inability to furnish adequate supplies

of meats and breadstuffs, except in part, by purchase. Whilst for the few months past our blockade has effectually cut off their supplies from us, the result is seen from the "New Orleans Delta," quoting "Sales of mess pork, $44 to $45 per barrel; and "fair Orleans sugar at 3½ cts. per pound;" (6½ pounds of sugar for *one pound of pork.*) Butter and cheese, non est."

The States furnishing large surplus supplies of meats and breadstuffs, are Illinois, Ohio, N. York, Indiana, Iowa and Pennsylvania, with minor supplies from Michigan, Wisconsin, and Minnesota.

We have seen it stated from apparent competent authority, that our government will require an increased amount of provisions for the year 1862, more than one hundred per cent greater than required for the nine months of 1861. Thus while the supply is to be more than doubled, our capacity for its production is seen to be considerably curtailed in extent of territory, as also much reduced in numbers by a transfer of about one million of late active agricultural producers, to an army of non producers and consumers.

I have said nothing in regard to our permanently established, and annually increasing exports of our meats and breadstuffs to European markets. The Hon. Secretary of the Treasury Reports on these are accessible to all. That there will be an increased demand, at higher rates for our surplus agricultural productions for the balance of the present year at least, we confidently predict.

February 22, 1862. MARION.

Vermont State Agricultural Society.—At the late annual meeting of this Society the following officers were elected:—H. H. Baxter, of Rutland, President; Edwin Hammond, J. W. Colburn, Henry Keyes, John Jackson, Vice Presidents; Daniel Needham, of Hartford, Corresponding and Recording Secretary; Frederick Holbrook, E. B. Chase, H. S. Morse, D. R. Root, David Hill, John Gregory, Elijah Cleaveland, Nathan Cushing, Geo. Campbell, Directors. The next exhibition of the Society is to be held at Rutland, 9th to 12th of September next.

Farm and Live Stock.

A Talk About Farm Barns.

At the Massachusetts Legislative Club.

Mr. Wetherell opened the discussion upon the influence of a good house in making a good, well-regulated family. One born and bred in a mud-hut is only a little elevated above the brutes.

The grounds about farm-buildings should be thoroughly drained, to promote the comfort and health of a family. Animals, too, suffer from living in moist barns.

Barns should be well ventilated to prevent offensive odors, and an unhealthy state of the atmosphere. The stable should be neither too warm nor too cold, but have a medium temperature.

There should not be too many animals in the same stable, if so, they will suffer as individuals do in a too crowded house.

Hon. Mr. Brooks of Princeton said buildings must conform somewhat to the land on which they are built. He likes the old New England barn, it being large enough so that hay need not be pitched up much above the beams. He built a barn thirty-three years ago, having a cellar. He carts the manure out in the spring. If he was to build again he would have a cellar; not for manure, but for other purposes. He would throw the manure outside of the barn, and have it covered.

His barn is ventilated by windows from the top and sides. The height of a barn should be about sixteen feet. Cattle should be turned out to water, rather than have water directly before them. The exercise does them good.

General Sutton, of Salem, said he began farming thirty-five years ago—cultivating four acres. He has gradually increased his farming operations to the present time. In one of his barns he keeps eighteen cows.—In another barn he has about forty head of cattle. He ventilates from the gable ends. In this barn he has usually eighty tons of hay. His barns are 100 feet apart; and not a quarter of a mile, as Mr. Proctor stated.

He has a room for his men where he places the Agricultural papers, and they like to spend their evenings there. He regards it as the best room on his farm. He now has four hundred acres, and he likes farming better every year.

He composts his manure in the field, where he uses it. He has cellars under

each of his barns, and he could not get along without them. A barn without a cellar, is like a house without a chimney. His own men have made all his cellars, and paved his yards.

He feeds in the morning in the barn; at noon in the yard; and at night again in the barn.

His yards are somewhat in the shape of a dish. The water found there is carried out by means of a water cart four or five times a year. He removes the manure from his barn cellars once a month.

Mr. Davis, of Plymouth, finds no fermentation in his barn cellar where cow manure is dropped. He holds that common farmers may allow all their manure to rest in their cellars from October to May.

He visited Gen. Sutton's farm two years ago, and remarked that his modesty had not permitted him to do it justice. He has everything in the most perfect order. One of his rooms interested him more than Kimball's museum. It is said there is nothing but what is needed on a farm once in seven years. Whatever is needed Gen. Sutton has it, and in its place; and in the best condition.

Mr Stedman gave his experience as a farmer. He has a raised platform for his cows, and in general, practices the modes most recommended by the previous speakers.

Mr. Quincy has been recently to the farm of Dr. Loring in Salem. He found him bedding his animals with sand. He was once in a celebrated racing stable in South Carolina, where were several horses worth $5000 each.

Horses should have a plenty of light and air in the stable. He would recommend the horse pitch fork to gentlemen having *high barns*. He would only use it for very high pitching.

Mr. Howard said horse pitch forks had been used in Pennsylvania ten or fifteen years where they are only used in high barns.

Mr. Hersey of Hingham said his barn is 100 feet long, by 35 feet wide. He kept all his cattle in his cellar. Last year he sold 50 tons of hay. He has windows around his cellar, but never found it necessary to open them. He has other barns for sheep. Those kept in the cellar are in a better condition than those under the open sheds. He thinks his cattle are as dry as those tied in barns. He never lost an animal.

Mr. Andrews has barn cellars for his cattle. He sends milk to market, and if the milk is not in a good condition he soon hears from it. He keeps from thirty to forty-five animals.

Mr. Brooks says sand is used in his neighborhood for bedding, and also saw dust.

Mr. Hersey put twenty tons of hay into a barn with no ventilation whatever, and when he sold the hay in the winter he found it in the best condition of any he ever sold. He believed that farmers ventilate their barns too much. The housewife puts her summer savory into a bag away from the air. And grass is nothing but an herb.

A gentleman from Watertown said he was a very small farmer. A farmer in Belmont has built a barn 40 by 36 feet for $430. The small farmers desire to know how they can build a barn for $500.

Mr. Howard spoke of hay being put into air tight barns. It can be done, just as the Chinese put tea into air-tight chests. He does not regard the English perfect farmers, even for their own soil and climate. They have covered stack yards and covered yards.

Report on Cattle Disease in Mass.

The undersigned, a Committee appointed by the Mass. Board of Agriculture to prepare a statement of facts for publication in relation to the cattle disease, would respectfully report that—

Having good reason to fear that the disease known as pleuro-pneumonia (so fatal in its ravages among the neat stock of North Brookfield and vicinity in the years 1859 and 1860) has again made its appearance in several towns in the county of Norfolk, they feel it the duty of this Board to warn the farmers and others, owners of neat stock in the Commonwealth, that the time has arrived for them to take every precaution to prevent the spread of this scourge; and in view of its contagious nature they would urge the necessity of the greatest care being taken by all interested in purchasing or permitting strange cattle to come in contact with their herds.

The disease now claiming our attention made its appearance in the town of Quincy, last April, breaking out in two herds nearly simultaneously. Eight animals from one of the herds were sold to a person in Randolph, in the month of September, for $85 for the lot. One of these animals died before reaching the home of the owner, and three more shortly after. The other four have been lost sight of. One herd in Milton, and also one herd in Dorchester, have been affected for some months. Four animals from one of these herds, which had

been sick during the summer of last year, but had apparently recovered, were taken to Brighton in the fall and sold. Four of the other herd have since died or been killed—all presenting a seriously diseased appearance. On examination by the veterinarians conversant with the Brookfield complaint, they pronounced it identical, so far as they could judge. There are four or five animals still left of this herd, some of which are either sick or showing symptoms of contagion. There are also other cases which have not been examined—the Selectmen of the towns waiting the action of the Legislature in passing a law authorizing a new commission. The law has now been passed, and the commissioners appointed, and we would respectfully urge upon the gentlemen composing that commission, the great importance of taking immediate measures to investigate the disease, and if necessary applying the remedies placed by the law in their hands, that the ravages of this fearful pest (which there is little doubt is identical with the Brookfield disease, and which can be traced to that neighborhood,) may be stayed.

There still being doubters in the community as to the existence of contagious pleuro-pneumonia, earnest attention is called to the thorough and convincing report of the first Board of Commissioners, with accompanying documents, published in the report of the Secretary of the Board of Agriculture for 1860.

We believe that no person, however prejudiced he may have been, who has been present at the examination of affected animals, has failed to become convinced of the contagiousness of this disease; and it would seem impossible that any one can doubt this fact who will take the trouble to examine the various reports that have been made in Europe and in this country on the subject.

HENRY H. PETERS.
PHINEAS STEDMAN.
FREEMAN WALKER, *Committee.*
Boston, Feb. 28, 1862.

Iron Trade in North Eastern Ohio.—This branch of business, which is no mean item among the industrial interests of the Mahoning Valley is looking up considerably, in consequence of a concerted move on the part of leading iron-mongers to advance the price of iron and nails, which move has been carried into effect. The *Register* says there was quite an increased activity in the iron business in Youngstown, last week.—*Warren Chronicle.*

The Horseman.

For the Ohio Cultivator.

The Knee and Fore Leg of the Horse.

The knee is composed of eight bones, six out of the number are placed so as to sustain pressure, two being behind the others out of the line of the superincumbent weight; one of these supplementary bones is fixed edgeways to the outer part of the back of the knee joint, and there answers the most important purpose of furnishing a lever for those muscles whose office is to flex the leg. When we see therefore, great breadth of the outer side of the knee, and that its hinder part is very prominent, throwing the muscles attached the point back, and so increasing the breadth of the arm, we may pronounce such a horse to possess great power in flexing his legs, and commensurate strength and quickness in action. Large knees constitute a good point in a horse, they denote strength and stability in action, safety and endurance; and it is a great point to have a boldly projecting bone on the outer part of the back of the knee joint.

The motion of the knee joint consists in flexion backwards, none whatever in the forward direction; and this flexion backwards is capable of being carried to the utmost extent—so far as to bring the back of the leg in contact with the back of the arm.

The fore leg or cannon bone is of the cylindrical class, and is particularly straight and round, the cannon constitutes the shaft of support of the leg; above it and upon it, with the interposition of the knee, stands the arm, while its lower end rests on the pastern bone. Short, straight cannons are most desirable; length of arm and shortness of leg, are good points, are signs of strength, and endurance and action.

While the distance from the elbow to the knee can hardly be too lengthy, that from the knee to the fetlock can hardly be too short. The leg in form, should be flat and broad, not what is called "round;" the sinews should stand out far behind the bone, and feel tense, distinct and hard, and the

interspace between the sinew and bone should give to the fingers the sensation of a hollow, a totally unoccupied space, and not one filled up with soft substance called gum. The cannon bone cannot be to large, providing there be breeding in the horse; and the only way to judge of legs is to feel them; by grasping them we ascertain their size; and by feeling them with our fingers we discover most surely what the proportions of sinew and bone is, compared with the weight to be carried.

It is frequently remarked that horses are small below the knee. In making this assertion, do not be deceived by appearances, for the limbs will now and then have the appearance of wanting bone and sinew, when such is really not the case. The sure mode of judging of legs is to feel them, run the hand down them, and span them; by this test a leg may be judged as well in the dark, as by simply looking at it in the light.

The lower end of the cannon bone has two roller like, smooth surfaces, which play within corresponding concavities upon the summit of the pastern bone; the position of the latter however, being obliquely forward, while the former stands in a perpendicular line. When the pastern deviates but little from the perpendicular of the limb, it is said to be straight, and is almost always made short, so that short and straight pasterns are concentaneous formations; the reverse—short and slanting pasterns, being incompatible or at least such a combination as is rarely seen, and is attended with disadvantages both of strength and action. When on the other hand, the pastern in leaving the cannon, forms a considerable angle, it is said to be oblique, and is almost always extended in length, denominated long or lengthy pasterns.

At the back of the pastern are two little supplementary bones, termed the sessamoids; they are kept in their places by ligaments running crosswise, attaching them to the pastern bone. In proportion as the pastern is upright in position less weight is imposed upon the sessamoid bones, more upon the pastern bone, and vice-versa. The weight the pastern bone receives, descends to the coronet, thence to the coffin bone; but the sessamoids call upon their attaching ligaments to support them under their load, and their ligaments do so by yielding—they being elastic—so long as force is operating; and the instant it is not, they, through elasticity, again recover their short length, and so raise the sessamoid bones into their places. The descent and ascent of the sessamoids, is a beautiful descending and ascending operation—a playing down and up after the manner of an elastic spring of most elastic and exquisite workmanship, imparting at every step the horse takes, its anti-concussion influence to every part of the frame.

Notice the long and elastic fetlocks of the race horse, at every bound he makes, will the tufts of hair from the fetlock joints be seen dipping upon the ground, though while he is standing still they may be some inches, even removed from the surface. Nothing can evince more plainly and beautifully than this, the movements of the fetlock joints. Other horses will evince this springiness in proportion as their pasterns possess the necessary length and obliquity, and such as have short and upright pasterns, will possess it in the least degree. Why this difference? Was not elasticity and defence against concussion, required in the cart or dray horse? It was to a certain degree, but not in like degree with the property of strength; he is an animal designed for feats of strength, his movements are tardy and measured, altogether unlike the fast horse whose movements are required to be airy, fleet and bounding.

The fetlock joint is frequently put to great exertion, causing strain and stress upon the sessamoids and their tendonous and ligamentary supports, producing over-stretch of them, or laceration of some of their component fibres at the moment, and thus occasioning immediate lameness, or else by a repetition of such efforts, impairing or destroying their elastic properties, and thus increasing that relaxation and puffiness of the joint which we constantly observe in horses who have been in the manner described, for years subjected to hard work.

T. Webb, V. S.

The Farm.

For the Ohio Cultivator.

Cotton Question—What Shall Farmers Raise?

Allow me, Mr. Editor, to express my decided approbation of the views you advance in *Field Notes* of the 8th inst. on "Flax and Cotton." Cotton is grown in the gardens for home use in western North Carolina, and Eeastern Tennessee, but for a field crop it *will not pay* even there. In South Carolina, almost wholly cotton producing, a good field hand will pick 75 lbs. per day, and this, when ginned makes 25 lbs, cotton fibre. Ten cents per pound has hitherto been a good price, thus a man picks all day to gather $2,50 worth of crop. Add to this the raising of the plant, bailing and marketing. This picking in South Carolina begins about the 10th of July and ends by the 10th of December, while in Ohio, if we could produce the plant successfully, our picking season would be not more than three months, and hence with us a crop would produce only three fifths of what it does in South Carolina.

Many people incited by recent publications will try a crop of cotton, and will know by experience what they might gain by simply conversing with those who have had experience. They demanded of the Government, seed from Port Royal. A gentleman who manufactures cordage for bailing cotton sought to transport his machinery there.

That region produces only Sea-Island cotton, which grows only at, and near the sea coast. It cannot be "ginned," but must be picked with fingers, and has always brought from 30 to 40 cents per pound. Finally, *no soil will produce much cotton except the soil chiefly composed of disintegrated granite.*

The subject of "What crops shall we raise," this year is neccessarily important to every farmer, and no subject more worthy of discussion can find place in an agricultural journal.

The civil war deranges all kinds of business and of a consequence, one derangment reacts upon another, thus complicating the question which the farmer must consider, for now we have surely several causes, either one of which, would at any time produce its effect immediately upon the agriculturist.

First the high tariff; which is not temporary, but must endure so long as the Government needs money. From this cause we must expect to pay high prices for manufactures and for the product of foreign countries, in short, for nearly all we buy.

Next the currency; what, with the amount of Government paper money, and the still larger amount the suspended banks can and will throw out all unconvertible, and of course depreciating more and more, we shall look for the consequences which resulted in 1836 to 1840.

Finally, who is to buy our produce, and will the demand keep up? The South *was* our chief customer for produce, but the war, if now over, has rendered them far less able and less willing to continue to rely upon us for pork and breadstuffs. I know it is said they can't help it, and if they could, that their old crop, cotton, pays the best. But without explaining now, I will simply say that *wherever cotton will grow corn will grow, and that it pays them quite as well as cotton,* and all it needed was *custom* which they have tried one year.

The foreign demand fluctuates with the condition of their own crops. Is it not the safe rule to say they will continue to buy for the next five years, about what they have bought in the five past? If so, we know how much that is, but upon the whole I think our crops such as we have been raising, will not be in as great demand as heretofore, and therefore I look for some exceptionable item which we *can produce* leaving cotton and "cotton trees" to the speculators in Rohan potatoes and Chinese mulberries; and first comes

Wool.—The U. S. consumes the product of one hundred millions of sheep, and we produce only one fifth of that amount.

Now wool is protected by a high duty, and the farmer has this one item in his favor to put against the whole list of manufac-

tures not in his favor By retaining all the increase of sheep we shall not reach our full domestic consumption for nine or ten years. Wool is therefore certainly one object of care.

Next comes sugar and molasses which we can produce from the Chinese cane. At least molasses, and that goes far toward lessening our imports and all seem to concur that it is a profitable crop.

Nor should flax be forgotten. It is rolled and prepared from the straw by machinery in many places and the *fine fibre*, shipped in bales to the mills, (at Fall River I believe,) and then spun and wove like cotton into excellent cloth for most purposes. At 8c per pound for the fine fibre it is said to be a paying business and one flax mill to each four townships of land, is soon to become a necessity. We may as well begin to think it over for it is one of the *"must be's."*

Another innovation I would suggest, though I may be in error in thinking that

A BARLEY CROP is better than oats and ought wholly to take its place. The same will produce as many pounds of barley as oats, and is better for feeding or selling. If it scratches too badly, get the smooth barley, (I have none of the seed to sell.)

Hops too, are brought in to the west from —I don't know where. We must stop that. Ask any brewer how many dollars he sends abroad for hops, and you will find how great a leak is in this little item.

Of the mustard cultivation and demand, also of the castor bean I know nothing, but there are farmers in the Muskingum Valley who know about the one, and in South Indiana the other. I think they would pay better than three cent pork, at all events.

Our western country should have more domestic woolen factories *and we ought to wear more of their goods and less shoddy.* I hope Mrs. Gage, will consider this subject as coming under her department on the domestic side of the "tripod" editorial, and favor us with a column or two, giving the subject full justice. She favors the little wheel of forty years ago, but she will not get the girls of to-day to fall in love with any such musical instrument. She will never see the long lost sign-board—"W. Hawkins, Wheel-wright," any more, but we might take our wool to the factory, get it spun for so much per pound, and bring it home to a loom yet to be invented by which weaving could and will be done simply as a sewing machine is managed. When the reed is thrown, it might throw the shuttle, and perform all the other motions of the loom just as well as to hear a little dried up old man tramping his feet, and tossing the shuttle right and left.

We must at all events accomodate ourselves to the times, and the sooner we can do it, the better for us. If we cannot, it will be because we are no Yankees. More strict economy will force itself upon us. We will learn this when we must I suppose and not much before that time. But to produce within ourselves what we want, and to try to circumscribe those wants to what we need, is now not only patriotic, but an imperious duty. J. R. STRAUGHAN.

Delaware, March, 1862.

For the Ohio Cultivator.

Osier or Basket Willow.

With your permission I will give a few facts relative to the cultivation, growth, market and profits of the osier willow.

It is now five years since I commenced the growing of the willow, and I am satisfied that it pays better than any other crop; and as there are thousands of acres that are now laying useless, that might yield from two to three tons per acre, which now sells for $100 per ton—say $200 per acre, or more, cash. Now what is to be done? I will tell you: Ditch your land, if it is too wet for good grass, then plow and prepare it as you would for a crop of corn, and do it well, as it has to be done but once. Procure your cuttings of the best kind, the Purple or *Salix Vaminalis*, set the rows three feet apart, cuttings one foot in the row; plant by a line, hoe them well the first year to give them a good start. Your first crop will be worth but little, yet will pay the expenses if you have a basket maker to work it up; the second year will yield about one-third of a crop; and the

third year you may expect a pretty good crop, and after that a crop as long as wood grows.

I will now give you the figures, say on one acre: Hoeing in June, *well done*, $5; cutting and binding, $12, (this may be done betwixt Nov. and April); sitting in water till they will peel, $12; peeling by machine $20; freight, $10; commission, truck, storage, etc., $10; total $69. Now call the crop, say two tons per acre, at four cts. per pound, $160,—which is $40 less than they fetch this year, and from $80 to $90 less than I have ever sold any before this year,—and this leaves $91 for the use of one acre, ready cash; and when I consider that this is only one branch of farming, and that almost the whole can be done when other branches do not crowd, and that it is also a quick sale cash business, at much higher figures than the above, I do wonder that there are not more farmers ready to commence the business. J. JEWELL.

Oberlin Feb. 1862.

What ails the Hen?—My hens have had sore eyes this winter; they have all got well except a young black Spanish hen; her eyes are inflamed and there is a white pulpy substance all over the eye. If you could tell me a remedy I would be very much obliged to you. W. JENNINGS.

ANSWER.—From this brief description we do not recognize the particular disease alluded to. Most likely it is a partial roup, but that would show itself more from the nostrils than the eyes. The best remedy, is to wash the head with warm rain water and Castile soap, then rub on a little lard and spirits of turpentine once a day. Keep the fowl in a dry warm place.—ED.

Long Wooled Sheep in Mass.—Since 1845, the long-wooled sheep in Mass. have gained rapidly on the fine-wooled. In 1845, the latter numbered 45,000 more than all others; in 1855, 435 less than the coarse and middle-wooled sheep, which now probably exceed the fine-wooled by 10,000.—The causes for this are, the fluctuation in the price of fine wools, and the quick returns for mutton and lamb. Long-wooled or mutton sheep will probably take the lead hereafter in this State.—*Boston Cult.*

The Garden.

For the Ohio Cultivator.

All About the Strawberries.

The strawberry is emphatically *the people's fruit*, and as the best time for planting (April) is near at hand, people will soon begin to inquire what varieties will best serve for replacing their worn out beds.

Many new sorts have been brought to notice within the past few years, all with flattering commendations, and all perhaps of much excellence in their own appropriate soil and climate; but, from sixteen years of experiment and observation in Central Ohio, we are fully convinced, that, with strawberries as with most other fruits, certain varieties will be found specially adapted to certain districts or localities, and almost or quite worthless when transferred to a differen soil and climate.

Here, at the Columbus Nursery, on a strong clayey limestone soil, subject to untimely frosts, hot sun and severe drouths, very few of the European strawberries are of any value; and not one in ten of those originating in the Eastern States are found reliable in the long run. In fact, out of more than fifty of the most highly commended sorts, tested by us the past six years, we have rejected more than half as unworthy of further trial; and for this immediate region we would rather dispense with all the other varieties known to us, than the three or four in our list which originated at Cincinnati and Columbus.—This may be set down to prejudice by some of our Eastern friends, but we can adduce the testimony of a score of other cultivators to the same effect; and if they will visit us at any strawberry season they can have evidence of a more tangible kind.

The following sorts have proved most deserving of cultivation, as far as our observation has extended in Ohio and other Western States. A few of these are new as yet, and have not been very generally tested, but "promise well."

[Those with a P after the name, are va-

rieties having pistillate blossoms, and need to have a bed or row of some staminate variety along side to secure a full crop of fruit.]

Jenny Lind—This bids fair to supercede the old *Early Scarlet*, being of larger size and full as early. We have not found it quite as productive the two seasons it has borne here; hence, we do not as yet abandon the old sort, which is one of the most profitable we have.

Iowa or "Washington"—This continues quite popular as an early variety among the market growers around Cincinnati, though all admit that the pale color and soft texture of the berries are serious faults. Mr. Prince of Long Island claims to have originated several seedlings from this, much superior to the original; but from three years trial of one of the best so called, *Globose Scarlet*, we have abandoned it as unproductive and worthless here. The same is true of his much lauded *Magnate*.

Burr's New Pine, (P)—Stands without a rival for its fine flavor and quality of fruit. It is also quite early, of good size, and productive—the *best*, in our estimation for private culture, in this climate; the *Triomphe de Gand* being its rival only in superiority of color and texture, suiting it better for the market.

McAvoy's Superior, (P)—Another good variety for amateur culture; not well suited for market, and not quite as productive as one could wish. Needs very close proximity of a staminate variety to ensure proper impregnation of the blossoms.

Extra Red (P) (McAvoy's)—Superior to the preceding in vigor of plants and certainty of crop; in fact, more reliable and productive with us than even *Wilson's Albany*, and the fruit equal to that variety in quality, selling well in market, though rather acid.

Longworth's Prolific, has not proved with us, quite as "prolific" as promised, but it is among the most reliable in our list.

Wilson's Albany is everywhere considered the most productive of all strawberries, and hence is immensely popular as a profitable market variety. Its only material fault is the indifferent quality of the fruit. This will in time no doubt become so well understood by the consumers that more difference in price will be made in our markets between such as this and the really fine flavored varieties.

Hovey's Seedling (P)—This has long been regarded as the largest and best of strawberries, in most parts of this country, and we have faithfully tried to make it do well here, but in vain. Not once in the past six years has it given us half a fair crop of fruit; and similar complaints have been made to us from various points in Central Ohio, Indiana, etc. We have seen good crops of it, though lacking in flavor, on the sandy soils around Cleveland, also on the slopes of Kentucky hills near Cincinnati. We presume that it may also succeed well on the hilly and sandy soils of South Eastern Ohio.

Hooker—This we rank among the best and handsomest new varieties promising well here, though perhaps not sufficiently productive for profitable market culture.

Genesee—Has also failed somewhat in productiveness the past two seasons, though in most respects a very desirable fruit.

Monroe Scarlet and *Orange Prolific* (P)—Though good and sometimes very productive, can hardly be relied on sufficiently in this climate.

Triomphe de Gand, (Flemish)—Is having a greater run of popularity throughout this country than any other foreign variety ever attained. It is more hardy and productive than any other imported sort; berries large, handsome, and very good. It may not be able to withstand hot sun and drouth as well as some of our native varieties, but is eminently deserving a place in every collection for market and private use.

Victoria (Trollope's)—Is also a most beautiful and excellent fruit, and ought to be in every amateur collection—though it may occasionally fail to produce a full crop. Both of these foreign varieties need to be cultivated in rows or hills, and the runners kept cut off during the season, to ensure their greatest productiveness and excellence.

M. B. Bateham.

The Orchard.

For the Ohio Cultivator.

The Planters' Convention.

What! more Conventions?" say you? Yes sir, yes sir! but perhaps you are tired of these reports; if so, all I can say is, they cost you nothing really, and are only transcripts from my old note book of last year, so that you can cast them in the fire if it so please you, and I lose nothing. This, because it is headed Planters' Convention, some reader may perhaps think relates to seceshdom, but he is grandly mistaken; for not one in a hundred, outside of the dark skinned gentry in all that region ever knew half as much of the laws of vegetable life as these old tree planters that were assembled together in the Convention I here imperfectly report.

It is now just about one year since I was invited to meet a number of jolly old chaps, —muddy as the very mischief—in one of my neighbor's gardens. This neighbor, by the way, was just starting a new place, and he had got these chaps to come and lend a hand; and as each was to tell how he liked to be handled, I concluded I might perhaps learn something by passing a day there; so I went. When I got into the grounds, there stood a whole army of apple, pear, cherry, peach, and other fruit trees, to say nothing of the numbers of grapes, gooseberries, raspberries &c., &c., that were around as a kind of picket guard.

My friend called first upon the apples to send one from their camp with full instructions to speak for all. Accordingly, a greenish yellow old fellow from way down east, under name of Rhode Island Greening, stepped out and said: May it please you, my friends decide that soil is one of the first things for our success, and agree that as a general thing it should be a light, yet strong loam, plowed not less than eighteen inches deep, and completely drained. Next, that as our habits, like those of men, are very unlike, we are not to be placed at equal distances apart, but for myself and Fallenwalder, Fall Pippin and many others, a distance of thirty-five to forty feet should be given; while our dear little Lady apple, Garden Royal, Early Strawberry, and some others, do not want to be separated over twenty-five feet.

And now having told you of soil and distance, we want to say that the holes you propose for our roots, must never be deeper than the depth of the good soil in which you design us to flourish. We have before said it must be broken up eighteen inches deep, and taking us as you do here—some three years old—dug from the nursery with the ordinary care; that is with about one-fourth of our actual roots. We shall want the hole about ten inches deep and about three and a half feet across. You will now please to take us and with a sharp knife, (ugh!) cut in a sloping manner from the under to the upper side of each of our roots just so much and no more, as will remove all broken pieces or rough edges. Next you will take us the other way. It is hard, but we submit for your and our future good and cut away by shortening each of our limbs just one half its present length, each time cutting carefully the under side of a bud.

Having thus prepared us, we are ready to go to our future homes: arrived there, we want you to remember the old adage, "puss in gloves catches no mice," and so put your hand, and not your foot to the work of planting us. As we shall not all of us have an equal amount of root, when you come to place us in our homes, we want you to remember, first: that three or four inches of soil above our upper roots is plenty; and after you have put our feet in place, make sure we are not too deep. Now, we want you down on your hands and knees, and while you steady our top with one hand, we want you with the other to spread our roots as they naturally belong; and as your assistant with his spade, shakes carefully, little by little, the good soil into our bed, let your fingers—spread out as if raking grass —press the earth in and around our lower roots, so that not a crevice remains. If you do this as you should, long before the hole

is half filled up, we shall stand as firmly as if we had never been moved.

This packing at the bottom is the only way to make us stand, as any one who has ever set a post, knows that if not rammed hard at the bottom all the power of man will not make a firm post of it by ramming at the top. Again, this packing at the bottom assists us the more readily to throw out new roots, as every gardener who has ever grown cuttings knows.

And now you may get up, while your assistant finishes up our bed by casting the remaining soil into it *loosely*, and leaving it on a *level* with the surrounding soil. Keep your foot off from our roots, they are our lower lungs, and won't stand any such pressure. True, some folks do make us keep up by treading us hard around the top with the foot, and then wounding our very pride as well as our bodies by tying us to stakes; but we never give them half as much growth for such treatment as we do those who manage us in the way here told you.

If you have superphosphate of lime on hand you may use about a quart, mingled carefully with the earth you place around our lower roots, but on no account use any strong animal manures near our roots; but if you please after we are all planted you may make a circle around us, of three feet radius from our bodies, and spread loose manure three or four inches thick.

Saying thus, the old yellow green apple returned among his fellows.

My friend now spoke to the Pears, desiring their opinion of how they should be planted; whereupon a yellow fellow, full and plump, stepped out and said he was desired to represent the Standard Pears. They had listened well to the ideas of the old Greening, and so far as his advice for stirring the soil, rules for the pruning, and his instructions for planting, they should desire them counted as but expressions of their own judgement. As he represented the Standard Pears, he would give his name, although he presumed they all knew him—for everywhere in this country he was known as *Bartlett*, but in his native country they called him *Williams' Good Christian*. He liked the name he was here known by best, although the other was far better than one gentleman in this country called him, viz., *Pole Cat!* he supposed because occasionally he bore about his fruit an odor similar to what many young fops and silly girls use, and designate as musk, and which every country person could have by standing in the cow yard at milking time, any time during summer.

But to return to his subject,—he should choose for himself and such others of his friends, who were often to be preferred on Pear roots, not only a well drained soil, but for their permanency it must be drained far deeper than is customary for farm lands. He and his friends when on their own roots, found those roots very strong, and disposed to make long rambling jaunts away down in, among and around the soil. A clay soil clogged them in a few years, with its sour, musty, unhealthful character, unless drained five feet deep, while in light sands they could never get food enough naturally, to keep them in good health, and soon had to show its unsuitableness in their meagre fruit and short growth.

Those of us, said he, who have watched our ancesters, find that the longest lived trees, those most exempt from blight, etc., are growing upon the banks of streams where moisture is always attainable at a depth of from six to ten feet; or upon strong, gravelly loams, where the soil is apparently unfit for ordinary vegetable culture. Side hills, trees near wells, &c., were also evidence that they could reach moisture when they wanted it, if the soil was only loose enough. Good clays, he said, if drained by tile, once in fifty feet, and the drains laid five feet deep, would probably suit them, for by the time their roots were ready to go down that depth, the percolation of water through the earth to the drains, would have so loosened it as to render it comparatively adapted to their wants.

He closed by saying that it was perhaps not quite in order, but if those who wanted trees to produce fruit ere they were many years planted out, and at the same time continue to increase most abundantly, they

would select the Zoar Beauty, Flemish Beauty, himself and some others, who it was well known, rarely failed to yield their fruit on pear roots the second year after being orchard planted.

The Bartlett having concluded, a pretty plump bronzed rosy pear designated as the *Good Louise of Jersey*, stepped out from among the camp of dwarf Pears, and with rather a brassy, acid air, said, as she had found favor everywhere, her associates on the Quince root had deputed her to speak for them. With the Bartlett, she had all confidence in the remarks on preparing the soil, pruning, &c., of the old Greening. There was one thing, however, that every planter of a dwarf Pear should remember, viz: That the very object of the growing of Pears on Quince roots was to bring the trees into a small compass, with branches spreading from the ground upward in a form something like an irregular cone. They should therefore, when pruning, look well how they cut; and while the upper branch of last year's growth was cut back to within one or two buds of the main stem, the lower branches should extend eighteen to twenty-four inches from the stem, and the intermediates accordingly.

She would say that good, well low branched trees, one year from the bud, were far preferable to older trees with their lower branches gone for two feet or more up the stem. In planting, she always wanted her quince nourisher to be underground, but she herself, never wanted to go outside of daylight—she was afraid of the dark.

My friend next called out the *Cherry*, and as he did so, a tall old black fellow came in front and said, from a general acquaintance with the public as *Black Tartarian*, his friends deputed him to speak. The Greening's instructions about planting and pruning suited them exactly. They must however say, that a wet foot was to them sure death, after a certain period; but that in any good *well drained* soil, no matter how stiff naturally, they would be sure to succeed. Among his few associates were some on the Mahaleb Stock—so growing because they thought sooner to produce fruit than on the Mazzard, as he was, but they would find themselves quite mistaken. If a dwarf and early bearing tree was to be had, the Morello stock must be used; but this would probably be a matter of time, as trees could be grown more certainly on the Mahaleb, than other stock, and less certainly and far less rapidly on the Morello. Therefore, until the people saw their value, and were willing to pay for them, nurserymen would not grow them.

The *Peach* was next called out by my friends, when the old *Columbia*, or Indian Peach of the south, spoke, saying, they had nothing to add to the heretofore remarks on planting and pruning, except it might be that they preferred even a more severe pruning, and as they were generally only one year old when sent out, they were most successful if cut back at once, to three and a half feet of main stem, with side branches of only two to four buds. They liked light soils, in which they were disposed to stand about twelve to fifteen feet apart—but in stronger soils, eighteen to twenty feet was not too much. They could not bear standing in water one, two, or three feet under ground, but liked to be planted on the borders of large bodies of water. The southern shore of Lake Erie, heretofore claimed as so well adapted to their success, she thought would have to relinquish that hon or in favor of the high, hilly lands of the more interior portions of the State.

Next, the *Catawba Grape* spoke, as representing her race, and said that a strong clay soil, well underdrained was their delight; that they wanted all their roots when transplanted, to be laid out horizontally, and covered only three to four inches deep; cut them back,—no matter how old or young—to two buds above ground.

The *Raspberry* said they liked good rich soil, but my friend must not put them in that piece of black muck, in one corner of his lot, foa they could not stand it. They wanted to be about four feet by two feet apart, and the ground frequently stirred until after fruiting time. It was now getting late, and I had to bid my friend, as I now do you, good bye. E.

For the Ohio Cultivator.

Acclimation and Constitution of Fruit Trees.

WINTER OR FROST CANKER IN FRUIT TREES.

One of the most prevalent, firmly rooted of all popular delusions in horticulture, is that trees are tender and unfit for planting any distance north of where they were grown, and solely because grown south of any given locality.

This opinion opens a wide field (and as we happen to know extensively occupied) for humbuggery, the same as a few years ago people were led to believe no good trees or fruit could be got in Western nurseries; that if they wanted anything good in that line, they must send East through some kindly tree agent or pedler. This opinion is scarcely so current now, nor will the other be very long, because radically erroneous.

Trees or plants considered with reference to their capacity for enduring cold, may be divided into three classes. 1. Hardy; as the gooseberry, currant, our native pines, firs and spruces, which can scarcely be said to possess any sensibility to cold. 2. Half-hardy, or less hardy than the first, including in this climate all of our large fruits, with very many other cultivated trees and plants; whatever suffers in root or branch from the cold of winter, and yet ordinarily survives to the maturing of blossoms or buds. 3. Tender trees and plants, as oranges, lemons, and all that perish utterly in our winters.

Now in regard to the latter class, and to a great extent the first, there is little dispute as to their permanent character and reference. And why? Simply because of the known, fixed character of each individual species — not because the specimens were grown north or south, but because wherever grown they are known to possess or lack hardihood *in themselves*. And this is the exact point or law to which we ask attention. The capacity for endurance of a plant or species, other things being equal, depends on its constitution, and not the place where the specimen may be grown.

The debate being chiefly upon the middle or half-hardy class, let us look at the subject further. Our cultivated trees and plants include in their varieties a vast range of habit and peculiarities of growth, hardihood, value—each sort with its own constitutional type fixed, adapting it *per se* to certain soils and climates, to which that sort adapts its season's growth, wherever it may be, every fall maturing up its growth against the coming winter, as far as circumstances permit. Thus, if a tree originally good, were moved every spring to a new region, it would adapt itself by each autumn to its new locality, if within its limits, and be the same as if grown there. Hence, there are just two points that determine the practicability of removing trees or plants to a distance—

1. Is the *variety* known to be adapted to its new home? and 2. Is the growth of the said trees or plants, where raised, of the most healthy, perfect character, and is the removal practicable?

We do not mean to say that the tissues of any tree, an American or Siberian crab-apple for instance, grown in Tenn. through the summer, would so well fit that specimen for the additional rigors of a Wisonsin winter immediately following, but we do mean to assert that if such a tree were moved north in the spring, and had the season before it to prepare for the next winter, it would do so as perfectly as if grown at the farthest possible point north. More than this—if it be an established fact, as generally conceded, that young trees are really more tender than older ones; for instance, that the wood of a yearling of any half-hardy sort is more liable to become injured and permanently unsound by severe winters than a sound individual of the same sort 3 or 4 years old, the argument would be most decidedly in favor of Southern-grown specimens (Spring planted,) because less injured while young by the winters they passed through.

This leads to a kindred topic most interesting but neglected—Winter or Frost Canker on fruit trees, especially the apple, causing bleeding and unsoundness. Does

wood once matured and sound become afterwards diseased by corroding, vinegar-like sap, made so by the chemical agency of intense freezing and thawing? Most undoubtedly — the sap wood more especially.

But does wood once so diseased even to incipient decay, ever change back to perfect wood? Absurd as it seems even to the writer, we have known cases which, from all external indications had been deeply diseased, and yet as apparently perfectly recovered. The only point is as to the extent of disease and decay from which nature does recuperate, and this could not be told without dissection; not so easy with a living subject. Sound wood merely flooded or discolored with diseased sap, will often throw off the last drop or stain, but if the tissues are themselves decayed, is there any process of sloughing off, as with the animal organism?

If time permits, we will gladly pursue this subject further, for the present closing with the remark that if the hardihood of northern or southern varieties proves anything, (which we doubt,) it will be found that those originating as far south as the Carolinas, average quite as hardy at the West as those from New England and New York.

F. K. Phoenix.

Bloomington Nursery, Ill,, Feb., 1862.

For the Ohio Cultivator.

A Farmer's Orchard.

In the spring of 1856 I planted an orchard of 100 apple trees, and the same number of peach trees, planting both in same rows alternately. I broke up the ground early in the spring with a Michigan double plow, about one foot deep; I then shoveled off as deep as I plowed, then took a spade and dug a foot deeper, throwing the subsoil to one side, digging the holes about four feet in diameter; (the land I planted on is thin oak land, quite level, the subsoil mixed with limestone gravel.) I then hauled well rotted barn-yard manure and mixed well with the surface soil, and filled the holes about half full, leaving enough of the mixture to fill up when I planted the trees.

I then reset my stakes and distributed my trees as I intended them to stand in the orchard,—the early varieties nearest the house for convenience. Then with the aid of a person to hold and sight, I commenced planting, putting the dirt around the tree with my hands, placing the roots as near as possible in the position they occupied in the nursery, leaving the neck or ground mark on the tree about even with the surface, making due allowance for the sinking of the ground; then banked up two or three inches with the subsoil, which is clear of grass seed or weeds. As soon as the ground got well dried out in the spring, I hauled rotten straw and spread around about eight feet in diameter and five or six inches deep.

Selection of Trees.—If you are convenient to a nursery, go yourself and select your trees, (as nurserymen will generally give you that privilege.) Don't select the largest you can find, regardless of their shape, but straight, tapering trees, as near the shape of a whip stock as you can get them, (as they are best supplied with small roots,) with a well balanced head. If you are not convenient to a nursery and have to buy of an Agent, don't send abroad when you can get better trees from some neighboring town, and that in two or three days after they are dug. I will grant, trees may be transported one thousand miles and grow very well, but the greater the distance the more liable they are to be injured.

Pruning Trees.—Before planting, cut off smoothly all mutilated roots and trim off a portion of the limbs, but leave the principal limbs untouched till the second season, then shape the head to suit you. It is necessary to know the habit of the tree before you can trim intelligibly; for instance the white pippin grows upright and should be headed low; the bellflower spreads out and hangs its limbs down, and should be headed much higher.

Planting and Staking.—If you plant the right kind of trees it is not necessary to stake them. If you plant in fall, and your trees should get swayed over with the wind during winter, straighten them up in the spring when the ground begins to settle, by

gently tramping the earth against them. In planting, lean you trees a little to the southwest, as the most of our winds are from the west and southwest, and have a tendency to lean the trees in an opposite direction. A good plan to prevent sun-scald, is to take a common fencing rail, saw it off 18 inches long, and split it in two so as to have two straight sides, then sharpen and drive into the ground about a foot, then take any kind of rough board and nail to the stakes. Clapboards can be worked out of almost any kind of timber to answer the purpose. The stakes of course must be driven in on the southwest side. If you will keep the sun from scalding your trees, I will guaranty you will not be troubled much with the borer.

The following is a list of very good apples for this locality and probably for all southern Ohio:

Summer: Summer Rose, Early Harvest, Red Astrachan, Golden Sweet, Summer Queen.

Fall: Maiden's Blush, Fall Pippin, Rome Beauty, Pryor's Red, Smith's Cider, and Tallman's Sweet.

Many others might be added. I have written the above for the benefit of my farmer brothers who may wish to plant an orchard soon, and who have not given the subject much attention. THOS. MURRAY.

Highland Co., Feb. 1862.

The Apple Tree Borer.

Four years ago, I came into possession of a few apple trees, thirty years old. They were all badly cut by the borer; one of them so badly honey-combed as to be blown over, and all of them were stunted and mossy, putting on no new wood. It seemed doubtful if they could survive, but as they were on the old homestead, and were trees which I set, I had a particular regard for them, and commenced cleaning them every foggy or wet day, when the moss was pulpy, and could be rubbed off with a brush or cloth. I took away the earth from the trunk of the tree, leaving the roots bare; scraped the loose bark from the trunk, took an old whitewash brush and a pail of soft soap, such as every family in the country makes for washing, and gave them a good coat, from the roots upward, three or four feet, rubbing it well into the cracks of the bark. I have practised this four years, giving one coat of soap early in the spring, and one in June or the first of July. During the season of 1860 and '61, not one hole has been discovered on the premises. When the bug looks at the coat of soap he is off; it does not deposit its eggs there because it does not like soap. The trees are now in a flourishing condition. In 1860 they bore a good crop. In 1861, the hard frost and lice destroyed all fruit except pears, in this region.—*Cor. Boston Cultivator.*

Health of Cows.

Good health in domestic animals is always a matter of primary importance. As bad health in parents transmits a tendency to disease in the offspring, it is highly important than every kind of animal we desire to continue on our farms, should be kept vigorous and healthy.

As domestic animals are a source of human food, it is a matter of great importance to preserve them in a healthy condition. Diseased meat carries its qualties into the stomach of the consumers. It is a serious objection which vegetarians urge against the use of animal food, that the bad treatment they receive, renders them unhealthy.

As an unhealthy animal cannot consume food to as good advantage as a well one, it is again economical to avoid disease.

Each of these circumstances is sufficient reason for guarding with scrupulous care the health of the animals we feed; but when we derive milk from animals, it is doubly important that they be kept free from every objectional taint. A sickly cow not only yields a diminished profit, but she yields sickly milk, and sickly in a higher degree than her flesh.

If a cow eats any thing that has a strong or disagreeable odor, it appears in her milk.

If she eats anything medicinal, it comes out in her milk.

If she is feverish, her milk shows it.

If she has sores about her, pus may be found in her milk.

If she is fed upon decayed or diseased food, her milk, since it is derived from her food, will be imperfect. It is as impossible to make good milk from bad food, as to make a good building from rotten timber.

If there is anything wrong about her it will appear in her milk, as that is an effective source of casting filth from her organism.—*Hallowell Gazette.*

The Austrian Pine.

The more we see of this unique and vigorous tree, the better it looks in our eye. On our daily beat from our residence to the office of *Field Notes*, are several thrifty Austrians, whose sturdy foliage serve both as a point of attraction in themselves, and to set off other contiguous shrubbery. Like other evergreens, these pines should be compact and not long coupled between courses and be particular that the leading central shoot is saved from accident. Set this tree where it will have plenty of room, give it good feed and let it spread with all its might. It should not be pruned.

For the Ohio Cultivator.

Evergreens from Seed.

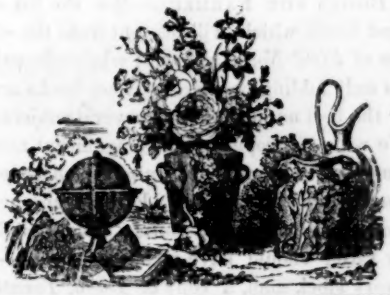
A few days ago I received a few hundred white pine seeds from a friend in Massachusetts, and feel anxious to raise trees from them if it can be done in this climate. If it would not be too much trouble, I wish you would publish the mode of raising them.

Union Co., Feb. 1862 H. P. GOFF.

ANSWER. Sow thinly in a box of sandy loam and leaf mould, and place where it will be somewhat cool and shaded.

The seed should be covered very lightly, keep moderately moist. They ought not to be allowed to get dry at any time; in dry weather water every evening. Transplant to nursery beds at one or two years old, and again to nursery rows in another year or two.

You will need a good stock of patience to begin with, in raising evergreens from seed. A better way will be to procure small plants from some nursery. They are not expensive. H.



Editor's Table.

S. D. HARRIS, . . . EDITOR.

Flax and Cotton Question.

In last No. of *Cultivator*, we undertook to say in general terms, what crops our farmers had best raise. Now it is one of our doctrines that the earth is our Universal Mother; from her the nations are fed, and the culture of her products is a sacred calling, which no accident can make contraband. This is one of the Higher Law articles of our creed, received and held by more than apostolic succession, being one of the great first laws given of God to the first man, and which no human legislation or conventional pronunciamento can supercede or annul.

We have been led to make this confession of our faith, from so often hearing and reading of the moral and political obligation of people in divers sections, to force the obvious laws of production and revolutionize established systems of agriculture. We do not want to be understood as saying now, that there is any moral law *against* this forcing of crops out of their natural limit; only that the persistent efforts of certain well meaning people in this direction, is not complimentary to their good sense, either as cultivators or citizens.

One of the most common subjects of outcry for some years, has been that Cotton is King, and must be dethroned. If this kingship is legitimate, a peaceful loyalty on our part would show much better sense than for us to set up some impotent Mephibosheth, in bastard sovereignty, as a counter to the throne of David or Solomon, whose kingship was patent to all men. We do not undertake to decide whether Cotton or Corn, or Grass, or Beeves, or Cheese, or Wooden Nutmegs, are King; they all have a royal look in their respective spheres, but if a healthful Common Sense, could be Prime Minister in either Court, we should hear less of unprofitable bantering.

But we are straying from the point. Fifty years ago, it was very patriotic as well as necessary, for the farmers of this country to produce, as far as possible, all the articles of their family or neighborhood consumption. Land and labor were cheap; commerce, dear and difficult. A suit of home-spun flax or woolen fabric, represented a good many hard days' work; but it was work which would not usually command cash at any price. The introduction of the simplest woolen machinery into New England,—which was done some seventy years ago, but did not become at all common for twenty years after,—was a relief to the over-taxed muscles of the women, which left them more at leisure for other business. Our good old father,—now some years past his four-score—was among the earliest of the machinists of New England who forged the single carding machine for woolens.

This expensiveness of dress goods was a serious burthen upon the poor, and even people in moderately easy fortune, were restricted to a rigid economy in the matter of dress, bedding, etc. The abundant production and cheap manufacture of cottons, which followed soon after, was the first great relief which the industrial classes of the world ever felt, in this line of personal comfort. It was a legitimate as well as an abundant blessing, for which this class of people will never be too grateful. The man who had sweltered in a tow shirt, which cost twenty-five cents a yard, could enjoy the luxury of a cotton garment at half the price. A spining girl or housewife, could come out in comely apparel, at a cost which would not bankrupt her slender treasury or her virtue.

So things were going one finely—one section, which had the natural facilities for production, sent up the material; and another section, which had the natural facilities for manufacture, worked it up, and both parties were accommodated. Then arose bickerings as to the relative political status of the two parties: this foolish contention has grown into a gigantic quarrel, and the two people, who had every reason to be fast friends, are enemies to the death. O! for an hour of good Common Sense! in default of which the industry of the country is subverted, the prosperity of a century scattered to the winds and a nation calling itself Christian, become a horde of human butchers! We shall never take in the full force of this rebellion, until we have followed its resultant desolations away into the future.

But to come right down to Flax and Cotton: it is neither wise or necessary, for us, as farmers of the west, to carry our resentments so far as to proscribe any of the productions from the revolted States; or, to use a homely phrase,—to bite off our nose to spite our face. We do

not believe in the economy or patriotism of wearing fifty cent linen, or in the misapplication of labor for any such end. Les us make the best of our present uncomfortable position, without showing the same lack of judgement in getting out of it, that our enemies have done lack of prudence in getting us into it.

Some sanguine people are still full in the faith that flax cotton can be made to more than take the place of real cotton. If this project were feasible, we would have attained a consumation devoutly to be wished, but there is a true saying, to the effect that you cannot make a whistle of a pig's tail. More than ten years ago, the best genius of the Yankee nation was in quest of a method to make a cheap fibre from the flax plant; all that capital and skill could accomplish was brought into requisition, and we saw with our own eyes most wonderful demonstrations of success at various factories; but the great solvent of all pecuniary propositions worked out the result—*it would not pay*, and the subject was quietly abandoned.

There is no moral objection against pursuing these investigations to any extent to which the purse and patience of men can go, but for the present it is safer for ordinary farmers to raise corn than cotton, in the territory northwest of the Ohio; and if people have flax, to accept it as flax, work it up as flax and wear it as flax, rather than to run a tilt against cotton, for any purpose of morals or politics. Cotton will continue to be grown in Dixie in its utmost perfection, and by one means or another it will be in our market, at a better price than we can afford to grow a poorer article for at home.

If this is not sound doctrine, we will thank any reader of *Field Notes* to tell us in what it is wrong.

The Illinois State Fair for this year is located at Peoria, commencing on the 29th day Sept. The *Prairie Farmer* confesses judgment against Brighton at last, and says the grounds at Peoria are the finest in the State; no sloughs or duck ponds within camping distance. A trial of Reapers and Mowers under direction of the State Board, is to be held at Dixon, sometime during harvest.

The Vermont State Ag. Society are going forward in their arrangements for the season. Edwin Hammond of Middlebury, has been elected President. The State Fair is to held at Rutland, the second week in Sept. A Wool Grower's Convention is also called for the same place, to be held on the ninth of Sept., being the first day of the State Fair.

Our French Sugar Cane Seed has not yet arrived in N. Y., but it is on the way, and we have a sure thing of it.

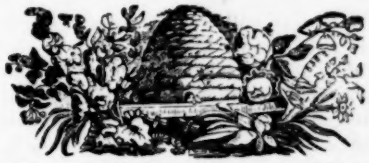
Books for Farmers.—See the list of good books which will be sent from the office of *Field Notes*, at lowest wholesale prices only adding postage. These books are by the best authors on their several subjects. We will send copies of our magnificent new illustrated edition of *Downing's Landscape Gardening for only* 3! Every gardener should have a copy of *Buist*. Every poultry raiser should have a copy of *Miner*.—Every stock man, a copy of *Dadd*, *Youatt*, or *Stewart*. Every farmer, a copy of *French* on Drainage. Every orchardist a copy of *Barry*; and every intelligent tiller of the fields, a copy of *Darlington's* Weeds and Useful Plants. Any of the above sent post paid at prices named.

Plant Fruit Trees and Vines.—We do not mean great orchards in particular, but wherever there is a warm, rich, unoccupied nook, stick in a tree or a vine; it will cost but a trifle, take up no room that will be missed, and give you—O! so much pleasure and profit in the time of harvest.

The Sugar Men are all wide awake for the season's business. Messrs. Blymyers, Bates and Day, of Mansfield, have in press at the Great Steam Printing House of *Field Notes*, a descriptive pamphlet relating to the culture and manufacture of Sorghum, of which they will publish an edition of 50,000 copies, for free distribution. Our printers have also just worked off Spring Catalogues for Bateham, Hanford & Co., of the Columbus Nursery, who are cocked and primed for the best campaign that famous establishment has ever made.

We have also in the press a catalogue of the same sort for John Gravett, of the Lancaster Nursery. Orcharding is becoming a leading business about Lancaster, for which the soil is peculiarly favorable.

Potatoes.—Don't confine yourself to one or two kinks of potatoes, but procure more or less of the new seedling sorts; and thus if the rot affect and destroy one kind another will perhaps escape the disease, and give you a bountiful crop. In potatoes, if in nothing else, just now, keep several strings to your bow. Elliott.



The Apiarian.

Bee-Keeper's Convention.

A convention of Bee Keepers and others interested in the business was held in Cleveland last week, the sessions continuing for three days. We select the following items from a report which we find in the Herald:

The meeting was organized by the former President, Dr. Kirtland taking the chair. The first business coming before the meeting was the election of officers for the ensuing year. The ballot resulted in the choice of

Dr. J. P. Kirtland, President.
W. M. Cunningham, Vice President.
J. C. Ely, Secretary.
L. M. Cobb, Treasurer.

Upon re-assuming his seat, Dr. Kirtland stated the objects of the Socity and the necessity of impartiality in the President towards different hives, as many and dissimilar interests are in this meeting represented.

The next business in order was the appointment of a Business Committee, whose duty it shall be to report subjects to be considered by the Association. The committee consisted of the following gentleman:

Messers. C. H. Robinson, S. C. Brown, and A. Udall.

This Committee, after consultation reported the following subjects for consideration:

Winter Management of Bees.
Where Bees obtain their Propolis.
Improvement in Hives.
Artificial Increase of Swarms.

Upon motion this report was accepted.

The discussion of the question, "Winter Management of Bees," was then entered upon.

Mr. Langstroth has experimented in Massachusetts, Philadelphia, and Southern Ohio, from which experiments he has become convinced that with plenty of bees and of honey, and free intercommunication between the combs, and an upward passage allowed for the dampness to pass through, no difficulty is experienced in wintering bees.

There are different manners of wintering bees. In Germany they are buried in pits as they are also in this country. In a cold climate a winter shelter must be provided. A rich stock of bees and of honey must be laid in and communication between different combs be easy; else they will starve.

Bees are very warm blooded, and close wooden hives makes the warmth from their bodies produce vapor which condenses on combs. When this ice thaws, it wets the bees, and if it suddenly freezes again, the bees are frozen. Hence this dampness which arises from the bees must be allowed to pass out of the hives from the top.

Unpainted thin wooden hives are better than thick double painted ones. Want of communication between the combs frequently causes the death of bees. As they will not make passages for themselves, these must be made for them.

Dr. Kirtland then explained the cause of the "damps" which are found in bee-hives. Bees in breathing exhaust the oxygen of the air, and carbonic acid gas being generated, it being heaver than air, settles to the bottom of the hives. Hence it is best to not entirely close the bottom of the hives, so as to allow the gas to escape. Dr. Kirtland related several experiments illustrating this subject, and agreed with Mr. Langstroth in his views on the subject of wintering bees.

The Professor was not in favor of wintering bees in a celler. The present winter he has kept his bees in the bee house, giving them good circulation of air, and of 45 stocks, all are in good condition. His opinion to-day upon wintering bees is in favor of where the sun could not be full upon them and where they would be thoroughly protected from the North winds. He had swarms merely covered by a dry goods box which are in good condition, and the only object in putting them into a house is to protect them from depredators.

Mr. Robinson said he has three hives without tops to them, which have been all winter standing near a window, and so that a person can look in and see the bees, and they are in good condition.

Mr. Merriman, of Burton, thought it a very important matter to know from what source bees get pollen; he thought that gathered from corn was bad for bees. He also thought that in making new colonies, too many bees were taken from the old hive; two or three frames from the parent hives were better than to take more. He was wintering 78 hives in a straw house, having

good ventilation; he has 24 hives out, and the bees are in good condition; how it is with those in the house, he can't say, but expects to take them out April 1st.

Mr. Twining of Indiana, remarked that he thought it detrimental to bees to allow them to fly out much in the winter; his opinion is that if they have plenty of air, they need not fly out at all; the bees should be kept in the shade, and on the north side of a building. Ventilation should be at the bottom of the hive as well as the top, and air should be fresh, and not like cellar air.

Mr. S. C. Brown, said that he has buried bees which have come out in excellent condition; those so buried consumed only one half the amount of food that those not buried did. He believed that in this changeable climate it was best to bury bees, and that such come out in better condition than bees which are wintered out of doors. Never lost a swarm so buried except for want of food.

WINTER FOOD FOR BEES.

Mr. Robison asked that the winter food for bees be discussed. He said he had fed a number of hives of bees on Sorghum sugar, and honey, and they now are suffering from the dysentery.

Mr. Langstroth gave his views somewhat at large upon the matter of food. He feeds candy to his bees, laying it on the frames before the bees have exhausted their stock of honey. He prefers such to liquid food. A sponge, saturated with liquid honey is an admirable device, for the bees go all through it and exhaust the food.

Mr. Merriman said that he has fed his bees with maple molasses; thinks that an admirable article of food.

Prof. Kirtland fed his weak hives in the fall on sugar syrup; this was before fall flowers, and these bees were stimulated to work, and thus add to their stock of food for winter use. The consequence of such feeding was that the weak hives worked upon the latest sprigs of mignonette in November, and after the stronger hives which he did not feed had ceased to work. That was all the winter feeding he did.

Mr. Langstroth spoke in favor of feeding rye flour, made into a paste with syrup; that is an excellent stimulant for bees. A friend had written to him saying that fresh, sweet milk was a good article of food. He tried the experiment and found that bees took it greedily. But it was a mere experiment, and should be cautiously used. This milk-feeding is a German idea.

Prof. Kirtland made some remarks founded upon this milk diet for bees; he referred to well known habits of bees to show that they seek saccharine matter of which milk largely partakes. He was very much interested in the idea of feeding milk, and commented in a scientific manner upon it.

Mr. Merriman asked if the Association knew that bees would eat beef which had been rubbed with sugar.

Mr. Langstroth said that years since, before he was as willing to be taught as now, an Irishman told him that in Ireland, bee keepers were in the habit of giving their bees roasted birds, and the animals were devoured all but their bones. He said that very old writers confirm the statement that bees will eat animal food.

Mr. Sturtevant also corroborated the statement by reference to old English authority. He believes that old bees do not need bee-bread, but that young bees do need it. He has fed his bees upon rye flour until the middle of June. Mr. S. went into a very interesting history of last summer, as showing that the late frosts destroyed the trees and flowers, thus depriving bees of their necessary food. He asserted that bees in their locality had no food until white clover blossomed; that again when buckwheat was in bloom they gathered honey, but not enough for winter use. He atttributed the last years' disasters among bees to that want of food.

ITALIAN BEES.

Mr. Brown related his experience with Italian bees. We have raised a large stock of pure Italian bees in close proximity with ordinary bees by using precautions to keep them separate.

Mr. Flanders also spoke of the importance of separating the working bees from the drones.

Mr. Twining said Italian bees have many advantages over the common bees. They are hardier and commence working earlier on cool mornings. They are also stronger and more active in defending their hives from robber bees. The Italian queen bee exhibited at the Illinois State Fair was much larger than any common queen, and would therefore be more prolific The workers are also larger, and could carry more honey to the hive. In those respects the Italian is, he is satisfied, superior to the common bee.

Mr. Sturtevant spoke of the great difficulty of separating Italian bees from common bees where they are raised near each

other. He considered it almost impracticable for the two kinds to be successfully kept in the same neighborhood. He bore testimony to the superior quality of the Italian bee in caring for itself, and in wintering especially. The Italian bee is worse tempered than the common bee, and its sting is more poisonous. They are very thievish, but will only steal from weak hives of the common bee. At the same time they are more industrious than common bees.

Mr. Langstroth said he saw the first Italian bees in the apiary of Mr. Parsons in Flushing, two years ago. His experience agrees with that of Germans and others in regard to the bee, except on one point. It has been stated that the Italian bee does not sting. It is possible that in the very height of the gathering season, when they are very eager in gathering honey, they may not be so ferocious. But as a general rule, the Italian bee is more irascible, more easily provoked to anger, and less easy to be soothed, than the black bee. Their aim is sure, and the sting exceedingly painful.—These facts all raisers of Italian bees will find out for themselves, if they have not done so already.

The Germans have given the Italian bee the character of being stingless. He accounted for this opinion by the fact that the German *black* bee is exceedingly savage and poisonous, whilst the American black bee is very peaceable. The Italian bee is more peaceable than the German black bee, and it has therefore got the character in Europe of being comparatively stingless, which does not hold good when compared with the American bee. He believed in the superior strength and honey-making power of the Italian bee. In relation to the comparative length of the proboscis of the Italian and black bees, investigations as yet, have found no difference between them, at least in a dead state. The power, by the Italian bee, of gaining more honey, he attributed not to the greater length of the proboscis, but to their superior strength, vigor, activity and endurance. Whilst he was not prepared to state that it has been demonstrated to a positive certainty that the Italian bees are better in every respect than the common bee for the bee keeper, yet that is his opinion.

With regard to the successful breeding of Italian bees, he recommended bee keepers to get a pure Italian queen, and raise pure queens from her. Then fertilize with either Italian or common drones, for it has been proved that the honey will be as good with either the pure or half blood working bee. The queens should be kept pure, and by this system, with proper care, the season can be closed with queens that will only produce Italian drones. The second season, with care can be closed with all Italian bees. His Italian bees did not rob other hives when blossoms were plentiful, but worked industriously and carefully. They have a more acute sense of smell than others, and can therefore probably find secretions of honey in substances that other bees do not discover. His observations do not go to show that Italian bees can oppress and conquer ordinary hives of black bees.

Mr. Sturtevant said his experience was against hybridization. He had compared the drones from a pure Italian queen with those from an Italian queen impregnated by a common drone, and the latter were so defective that he killed them all, and also killed the queen.

Mr. Langstroth said the facts were undoubtedly as Mr. Sturtevant stated, but he did not think they warranted the conclusion. Pure Italian queens frequently produce defective drones, even where no common bees could possibly be in the neighborhood. At the same time the experience of Mr. Sturtevant teaches the lesson that we should be careful in selecting drones.

Mr. Sturtevant mentioned the fact that the more you handle Italian bees the more savage they become.

Prof. Kirtland described his experience in Italianizing bees, and stated it to be a labor of no ordinary amount. He prefaced his remarks by saying that he had no axe to grind, and should have no Italian bees to sell until he had got through with his experiments, which would not be for two or three years at least. He stated the result of his experience, so far, to be that the Italian bee is stronger, more active, and better able to endure the Lake breezes; it works longer than the common bee, and in consequence lays up larger stores; it is enabled to work in certain flowers which the black bee will not; it breeds more freely; it is far more irritable, and will not bear handling, the sting being comparable to nothing but that of a hornet: it is a more beautiful bee than the common variety. In conclusion he thought that no one would make a fortune out of the Italian bee, but that it bears the same relation to the ordinary bee that a Durham Short horn does to the old native cattle. It is merely an improved variety.

Mr. Ely said that his Italian bees had

been at work in a clover field, during the first crop, at a distance of a mile from the hive.

Prof. Kirtland cautioned bee raisers against the probable ill effects of "breeding in and in" from the same stock. Such in-breeding deteriorates man and animals, and there is no reason why bees should be an exception to the general rule.

[Concluded in next No.]

The Orchard.

An Essay on Orchards.

BY DR. JOHN A. KENNICOTT, OF ILL.

INTRODUCTORY.

Old men are proverbially garrulous, and yet one who shall read well and heed well what I propose writing, may here chance to find—if not exactly "in a nutshell"—as much reliable matter, in regard to *Orcharding in Illinois*, as was ever bound up in a bundle of the size.

I have had more than half a century's experience in orcharding, over twenty-five years of it in Illinois, and have a right to my egotism, and aphorisms, and "rulings," in the "laws" of horticultural "practice and precedent," often, unfortunately, no more fixed or immutable that the opinions of a TREAT or a TANEY.

THE COST OF ORCHARDS.

The cost of trees and plants, and their liability of failure to live—and the question whether *we* shall live to eat the fruit from them—are among the silly and sad bugbears of a former age, unworthy of this decade, and especially unworthy of the farmers of Illinois. At the best, the cost of trees, for an acre of peach and apple orchard, will not reach $10—at the worst, $15—anywhere in Illinois. And just multiply these figures by 2 and 3, respectively, and you have about the extremes of cost of nursery stock for an acre of Pears, Plums, Cherries, Grapes—and all the "small fruits," etc.—anywhere in the State.

Where nature has not fitted it to your hand, the cost of preparing the ground, for an orchard, is the most serious consideration. Good naturally underained wheat soil, is, almost always, a good orchard soil; and, to prepare *this* for planting, and planting it, need not cost more than an acre in wheat! While a deep black muck—perhaps first rate for corn and hay—but without much clay, or lime, in the surface, and filled with water, eight months of the year, may cost from $15 to $50, per acre, to thoroughly underdrain it and trench-plow it, so as to bring up clay and lime, from the hard pan, or ordinary subsoil, twelve to twenty inches below. And, without such preparation, you cannot, reasonably, expect an orchard, of mixed fruits, to do its best.

The cost of culture, and gathering the crop, will seldom exceed that of corn and potatoes—the smaller, and more largely paying fruits excepted. And, averaged against our ordinary field crops, fruit WILL PAY, at least double profits, wherever the markets are handy, and good. And, failures are not more frequent, where SOIL and SORTS are right, than with the wheat crop in Illinois. I state this from actual observation, in the last fifteen or twenty years—but excepting the first, or sod crop, of wheat, from my estimate. The old bugbear, of overproduction, is all nonsense. I have hauled many a load of wheat to Chicago, and sold it, for, from 50 to 75 cts. per bushel; and half of you have often realized less. But who, among you, has realized less, from a crop of good merchantable fruit—improved fruit—the best sort for your market?—not a lot of "seedlings," which are often worse than "stump-tail" wheat, in any well supplied market. Fruit sells much better now, than it did twenty years ago, all through the west, and four times as well, east, as it did forty or fifty years ago: and every thinking and experienced fruit dealer, of twenty years standing—and there are some such, who have got rich in the business—will join me in the assertion, that the demand for fruit has been increasing faster than the supply; all they complain of is, that too many dealers are going into it, and that, even in Chicago, a monopoly of the trade is no longer practicable. It is true, that, with perishable sorts, a market may be glutted for a few days, but not often, and never for long.

PRINCIPLES OF HORTICULTURE, ETC.

There are some fixed principles, or well known natural truths, that must be taken into consideration before planting fruit trees, &c. And, unfortunately, there are a few FACTS—not so well defined—that all should know, in order to insure success in fruit growing. Some one or more "species," and often many "varieties," of our edible fruits, may be grown, on every available acre of ground, from the equator to near the polar circle. But there are few, if any, that will

grow everywhere—even within much narrower limits. Then again, there is, comparatively, very little ground naturally well adapted to the production of most species and varieties suited to climate. In the first case, SOIL, naturally unfit, may be made to suit, but SPECIES can not, as a rule, be adapted to CLIMATE, greatly at variance with their origin. And "acclimation" of individuals is an impossibility!

Now, right here, is one of our ignored FACTS, that has long been a stumbling block to the progress of out-door horticulture. We know, that through *seeds*, from successive and gradually removed seedlings, species have been partially acclimated—throughout a very considerable range—as in the peach. But the native individual, never!

SOIL AND CLIMATE.

The first great principle in the preparation of soil for fruit growing, is THOROUGH DRAINAGE—UNDERDRAINAGE. The second, depth, strength—or specific fertility—and capacity for holding just moisture enough and NO MORE! All these latter conditions are oftenest found in a good WHEAT SOIL. Land that will produce half a dozen good crops of winter wheat, with suitable rotation, is a pretty sure orchard soil, if reasonably drained. Land naturally well underdrained, is that with a subsoil of sand, gravel, or seamy and shelving rock; and is *not* always—though often—the best fruit soil.

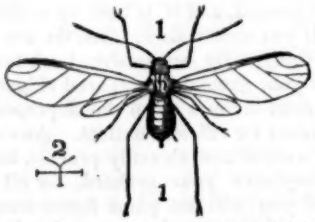
Underdrainage may be made, with the "mole" draining machine, in plastic clay—where the descent is moderate—with loose stones, boards, or brush, where the declivity is greater—and with *tile*, everywhere—that drainage is practicable. I have tried all; and am satisfied that the last is best, as a general rule; and the first, least expensive, and, where feasible, tolerably satisfactory.

I intimated that CLIMATE—and of course adaption, in regard to some particular varieties of fruit—might be modified, by thorough drainage. It is said, that from 10 deg. to 15 deg. of heat have been gained by it. I know, that from one, to three weeks of TIME; IS gained by it; and there is no doubt as to the other fact, of temperature. And the gain—from snow and rain—and the saving in fertility, and in rendering inert elements available, is of immense consequence besides. The amelioration, in local climate by dense plantations of forest trees, and hedges, is now pretty well understood; and I refer to it, only, as a settled principle. But enough, on this. You MUST DRAIN orchard ground, and it is best to underdrain it. If you cannot do it, then do the next best thing. By successive back-furrows, throw your ground into spaced ridges, with deep dead-furrows down the slopes, and open ditches for efficient outlets. An exceedingly wastful and slovenly process, but one that may save your orchard, for all that. And if you will not plant forest trees and hedges, for protection to orchards, then plant your orchard trees thick, and they will protect each other. What is often considered "a good corn soil"—or our rich, black, prairie loam—over retentive clay—is utterly unfit, for most orchard fruits, in its natural condition, and position—the books to the contrary notwithstanding. But underdrain this, and TRENCH-PLOW it—deep enough to bring up plenty of clay, and perhaps lime—and alter its capacity for retaining moisture in a dry time, and modify its dark COLOR, by admixture—and you may make of it, a fruit soil—almost equal to the natural wheat soil.

Cold water is the great enemy the ordinary orchardist has to contend with; an insufficiency of alumina, or clay, is often fatal; lime is no less necessary to most fruits; the phosphates, potash, soda, etc., are essential, and not always easily supplied; vegetable matter cannot be dispensed with; but it is almost always sufficiently abundant, and can be added, at little cost, when needed. But in nine out of every ten cases, I will come back to cold water, as the cause of general failure—so far as soil is concerned—and point you to drainage, and the trench plow, for prevention and cure.

A good fruit soil should contain at least 8-100 per cent. of alumina, or the base of clay. A little less will do, and much more renders the soil too tenacious, for easy culture. This latter fault may be mended, by the free use or coarse stable manure, and decomposed peat—after underdrainage, and the free admission of AIR, where cold water once stagnated. Air is a wonderful ameliorator of stiff clays: and there is nothing like underdrainage, and fall plowing to give your clay soil oxygen.

Always prepare orchard ground in autumn, except in loose sand, perhaps, whether you plant then or not. There is less time for it, in spring; and frost is a great pulverizer of good clay. As a rule, your orchard soil should be well worked, to a depth of at least 12 inches—and better 18—if its character will admit of it.



Entomology.

Entomological Events of the Past Year.

[At the late Winter Meeting of the N. Y. State Agricultural Society, Dr. Asa Fitch—Entomologist for the Society, sent in a paper summing up the discoveries and experiences for the year. The paper is interesting as an exhibition of the uncertainty of all human suppositive philosophy in bugology, as well as the provoking irregularities of the bugs themselves, by which they will not submit to the wholesome government of such laws as the doctors prescribe for them. We fear that the learned doctors will be no more able to prescribe for the villainous bugs, than our credulous farmers who do their work by the signs of the moon.—Ed. *Field Notes.*]

Gentlemen:—

The past year has furnished an unusual amount of important material for investigation, in the department in which I am occupied. And I had contemplated with much satisfaction the account of the year's researches which I should have to present in this address at the annual meeting. I will endeavor to hastily sketch the leading topics I had intended to speak of; and if you deem this will be of any interest to the meeting, it may be read as some amends for my non-appearance.

The insects with which my attention was most occupied the past year were the grain aphis, the army worm and the wheat midge. And I will aim to notice some of the more important facts that have been thus come to with respect to these insects.

THE GRAIN APHIS.

The first of these, the grain aphis, made its advent in a remarkable manner. That an insect never seen before and not known to be present in our country should suddenly be found everywhere in New-England and most of the state of New York, in profuse numbers in every grain field of this wide extent of territory, and literally swarming upon and smothering the crop in many fields, was a phenomenon which probably has no parallel in the annals of science.—How it was possible for this insect so suddenly to become thus astonishingly numerous was a mystery which seemed to most persons to be inexplicable. It is the most prolific of any insect which has ever been observed. I find it commences bearing when it is but three days old, and produces four young daily. Thus the decendents of a single aphis will in twenty days amount to upwards of two millions; each day increasing their numbers to almost double what they were the day before. This serves to account for the surprising numbers which we had of this insect.

This aphis was everywhere supposed to be a new insect, and one writer went so far as to name and describe it scientifically, in full confidence that the world had never before known anything like it. My examinations however, fully assured me that it was identical with a species which has long been known in the grain fields of Europe. And on my announcing this the erroneous views which one and another were adopting were speedily abandoned.

Our best European accounts of this insect, however, are very imperfect. They only speak of it as occuring in June and July, whereas I find it is present on the grain the whole year round. And when the grain is but a few inches high, if half a dozen of these insects happen to locate themselves on the same plant, they suck out its juice to such an extent that the plant withers and dies.

As yet I have never been able to find a male of this species. They are all females. This is proved by placing any one supposed to be a male in a vial; next morning two or three young lice are always found in the vial with it. The general habits of insects of this kind are well known. The aphis on the apple tree and other fruit trees when cold weather arrives, gives birth to males. The sexes then pair, and the female thereupon deposits eggs, which remain through the winter, to start these insects again the following year. I had supposed it would be the same with this aphis on the grain. I thought when autumn arrived I should meet with males and find eggs dropped on the blades of the grain. But there were none. The females and their young continued to appear on the grain till the end of the season. They are everywhere on the grain now, buried under the snow, ready to warm into life and activity again when the spring opens. And on grain growing in flower pots, on which I am keeping these

insects in full activity through the winter to notice what I can of their habits, no males have yet appeared. When, and under what circumstances this sex will be produced, is a most curious subject, still remaining to be ascertained. It at present looks as though the female and their descendants were prolific permanently, without any intercourse of the sexes.

Last summer such multitudes of parasites, lady-bugs and other destroyers of this aphis, had become gathered in the grain fields at harvest time, that it seemed as though it would be exterminated by them. But at the end of the season this insect appeared to be about as common on the young rye as I had noticed it at the opening of spring.—The present indications therefore are, that this aphis will be as numerous on the grain the coming summer as it was the past, if the season proves favorable to its increase.

THE ARMY WORM.

As to the *army worm*, it may be remarked that for almost a century it has been known that in this country was a kind of worm whose habit it was to suddenly appear in particular spots in such immense numbers as to wholly consume the herbage over an extent frequently of several miles, and then abruptly vanish, nothing being seen of it afterwards. Thus it was one of the most singular and also one of the most formidable and alarming creatures of this class that was known to be in our world. Yet what kind of worm this was, and what insect produced it, remained wholly unknown down to the present day. Appearing here and there all over our country the past season, this army worm became an object of the deepest interest, and from Illinois on the one hand and Massachusetts on the other, specimens of the moths bred from these worms were sent to me, for information as to what the name of the insect really was. To these inquiries I was able to give an answer so full and explicit that there has been a general acquiescence in the correctness of my decision of this subject.

THE WHEAT MIDGE.

With regard to the *wheat midge*, I would observe that in a lecture before the Society a few years since, I stated that in this country injurious insects were much more numerous than in Europe, occasioning us far greater losses than are there experienced. I was assured of this fact from carefully comparing the statements of foreign authors respecting the depredations of particular insects, with what we know of the same insects here. But I did not suppose it would be possible to show by any more decisive proof that the facts were as I stated. A year ago, however, I received from France a vial filled with insects as they were promiscuously gathered by the net in the wheat fields of a district where the midge was doing much injury. It then occurred to me, that by gathering the insects of our wheat fields here in the same manner, it would furnish materials for a very accurate comparison of the wheat insects of this country with those of Europe. As the result of a comparison thus made, I find that in our wheat fields here, the midge formed 59 per cent. of all the insects on the grain, the past summer; whilst in France the preceding summer, only 7 per cent. of the insects on wheat were of this species. In France, the parasitic destroyers of the midge amounted to 85 per cent.; while in this country, our parasites form only 10 per cent. And after the full investigation of the subject which I have now made, I can state this fact with confidence—we have no parasites in this country which destroy the wheat midge. The insect so common on wheat, and which resembles the European parasites of the midge so closely that in the New York Natural History it is described as being one of those species, and in the Ohio Agricultural Reports it is confidently set down as another of them, I find has nothing to do with the wheat midge, but is the parasite of an ash gray bug which is common on grain and grass, laying its eggs in the eggs of this bug and thus destroying them.

In my lecture a year ago, I stated to the Society that the wheat midge had wholly vanished the previous summer; not one of its larvæ could I find, on a careful search over an extensive district around me. But the past season this insect appeared in the wheat again, as numerous as usual. This has led us into important changes in our views of the habits of this insect. How was it possible for it to utterly disappear from the wheat one year and be back in it in swarms the next year? Obviously, it must have other places of breeding than wheat. And therefore if no wheat was raised in our country for a few years, as has so often been proposed, it would not starve and kill out this insect. The insect would resort to these other situations and would sustain itself there, returning into the wheat again, as numerous as before, when its cultivation was recommenced. And what could it be that banished this insect from the wheat in

1860, and brought it back again in 1861? The remarkable difference in the weather of these two years furnishes an answer to this question. When the midge fly came out to deposit its eggs in June, 1860, the weather was excessively dry; in 1861, it was very wet and showery. And thus we learn the fact that these flies cannot breathe a dry, warm atmosphere; they are forced to retreat to places where the air is damp and moist. When the uplands, the plowed fields, are parched with drouth, the midge cannot abide in them; it must go to the lowlands along the margin of streams, where it must remain so long as the drouth continues. Here it must lay its eggs and rear its young, depositing them probably in the grass growing in these situations. And hence we also learn, that if the last half of June is unnsually dry, our wheat that year will escape injury from the midge; but if the last half of June is very wet and showery, this crop will be severely devastated. Time forbids my pursuing this subject further. Yours truly. ASA FITCH.

The Garden.

For the Ohio Cultivator.

Orchard and Garden.

Time to Prune.—Custom often overrules judgment, and we have so long been accustomed to take from the practice of our fathers the rule to prune trees in February or early in March, that it is difficult to change, even when a knowledge of the error of our course is perfectly apparent. There is no better time to prune than that month in which the tree is making the most wood. The sooner a wound heals the better, and a tree which is growing, all know, will heal a wound quicker than one in a comparatively dormant state. The sap, as it rises from the root, is in a crude state, but after it has been elaborated by the leaf it commences its downward current, and forms new wood, or the granulations that assist to heal a wound. It is evident, then, that when the tree has the most of leaves, and in a condition to elaborate the greatest quantity of proper sap, that then is the best time for pruning. This period varies in seasons, from the middle of July to the middle of August.

Depth of Roots—Necessity of deep Culture.—The strawberry has had its roots measured five feet and three inches. Corn planted on a hillside, has had its roots washed clean by rains and they measured over five feet. The cucumber and melon in fine rich mellow soil often send out roots ten to twelve feet long. The onion has been found with its roots two feet deep in good soil. Wheat, when the soil permits, will send its roots two and a half to three feet downwards. In view of these and other like facts which have been brought out by actual measurement, the farmer should guide himself in preparing his ground. Common plowing gives only four to five inches depth of soil, leaving the roots after getting at that point to struggle and labor in cold stiff ground. Deep plowing and heavier seeding are the leading causes of so much heavier crops being grown upon the same amount of surface in England over that of our States. We have too much land, and few estimate their property except by the number of acres of surface.—Most of the land of Ohio could be doubled if the plow were put down just twice as deep as at present.

Earliest Known Potatoes.—It is stated that seedling potatoes were raised by Gerard, an English botanist, in 1590. This is twenty years earlier than they were introduced into Ireland, and six years after they were sent from Virginia to England.

Apple upon Thorn.—The apple grafted upon the thorn becomes almost as much dwarfed as upon the Doucain stock. The thorn stock also induces a large increase of quantity in bearing.

Garden Seeds.—Good seeds are the very first requisite for a good garden; soil and culture cannot make good crops out of bad seed. As a general rule *buy your* seeds. The reasons for it are many. In the first place, seed raising is a delicate business, and for many reasons will be better done by those who make it their business, than by those who do not. A reputable Seedsman never dreams of raising himself all the seeds which he sells: but he lets one

sort out to be grown on contract in a given soil and manure, and at a distance from all other soils. Another man perhaps many miles distant has another sort, and so on, care being taken in this contracting, that the contractor be so situated that no seed of a similar character, or that can be intermixed in the pollen, can be grown near him.

When a seedsman grows seeds upon his own lands, he is very careful that such seeds as can be crossed by the aid of bees or the air, be placed at far distances upon the farm. These precautions are indispensible to the purity of the seed. Let any one watch the bees of a moning, when the plants are in flower, as they cover themselves with the pollen of one flower and then flit to another, and another, thus intermingling the fertilizing powder, and thereby destroying the purity of the seed. All farmers know the difficulty of growing corn pure, when two sorts are planted side by side, and this is still greater the more delicate the seed, or open its flower.

Northern grown seeds are generally the best, for two reasons; one that a change of climate is often advantageous, and a change from north to south far better than the reverse. Another is, that those who grow seeds at the north are generally more careful than those further south. E.

Coal Oil for Peach Trees.—I have 250 peach trees, and wish to know if the crude rock oil, such as we obtain from our wells on the Kanawha river and other places, is good to keep them healthy and thriving.—I have heard that it is, but am not satisfied as yet. J. N. D.

Parkersburg, Va., March, 1862.

ANSWER.—Coal oil or carbon oil of any kind, is fatal to trees, unless it is used in a very diluted condition. A weak soap-wash made of this oil has been found beneficial in destroying ininsects in the bark of trees, but a solution of whale oil is better.—ED.

Grafting Grapes —Chas. B. Ott, of Bucks Co., Pa., grafted Delaware upon the common frost grape last April, in the following manner: The wild vine was put down as a layer, split through with a knife along the whole length, at intervals of one foot each, and the Delaware scions of two eyes each were shaved down and set in the slits, and the earth filled in around them to the upper eye. About three-fourths of them lived, and some made a growth of 15 feet. The wild vine was about one inch in diameter, and the top end was left out of ground to keep it alive.—*Am. Agriculturist.*

A Curious Hanging Basket.— Miss E. Slocum, of Fayette Co., Pa., sends the following description to the *American Agriculturist*: "Procure a large sized turnip, and scrape out the underside, leaving a pretty thick wall all around; fill the cavity with earth, and plant in it some climbing vine—cypress vine or morning glory. Suspend the turnip with cords, and in a little time the vines will twine around the strings, and the turnip sprouting from below, will put forth leaves and stems that will turn upward and curl gracefully around the base.

Grafting. — The cherry should be the first tree to operate on. Early in March is the best time for it. If it is desired to change a large tree, do a little this year, a little more next year, and again the next. Take the top shoot and upper course of the limbs for the first year, and so on. Cutting too much, or an attempt to graft and change the whole tree in one year, most always results in failure, and generally in actual death of the tree. Cherries can be grafted on pieces of root, and grown in the open ground like apples.

Apples and Pears should be grafted certainly by the tenth of April, although if the grafts are now cut and laid away in sand in the cellar, it will often answer to continue grafting even into May. Always graft the upper limbs of a tree first, and even with apple and pear trees the rule we give for the cherry is better in the observance than the breach.

Corn for early use, should be planted early. If killed down by the frost, it will often start again, and be earlier than a planting at the time of the frost. The best *very early* kind, is the *Early Jefferson*. It is a white round kernel, and generally gives roasting ears in sixty days from the time of planting.

The Dairy.

For the Ohio Cultivator.

Cream and Churning.

The presumption is, that an agricultural editor who has filled the editorial chair so long and acceptably as your honorable self, knows everything pertaining to agriculture. Therefore I hope you can enlighten me on the subject of churning, and making butter. For the two past weeks, my butter has refused to come unless by the application of great heat or labor, and the two last churnings never came. We gave up in despair, and fed the cream to the calves, rather expensive feeding.

Now what is the cause of this? I keep my spring house clean, sweet, and warm. But the cream gets intensely bitter if I let the milk stand forty-eight hours. I skim at thirty-six hours, the cream is then sweet, but if I let it stand twelve hours longer to sour, then it tastes like a well boiled decoction of rag weed, worm wood, and boneset. This has not been the case till I commenced feeding exclusively on corn-fodder and increased the quantity of my corn and cob meal mush. I have no hay or roots for variety but have to use the above food altogether.

Does this bitterness come from the food? Does the trouble in churning arise from this bitterness? Can the bitterness be neutralized after formed and the butter come as usual? If so, how?

It is claimed that milk must not be churned sweet—I cannot sour mine, for I thereby generate bitterness, which, apparently prevents the butter coming. What then shall I do? I tried the experiment of churning sweet cream to-day; the butter came nicely, and I shall continue it till duly enlightened on some better process.

I must give you a description of my churn hoping that it may be of benefit to some of your readers: It is but a plain, square, box, eighteen inches in the inside, hung on gudgeons and on a frame about 2½ feet high, with a crank on one of the arms or gudgeons. The churning is done by turning the box. It will churn 16 gallons of milk, with no more labor than required to turn a common fanning mill, gathering the butter nicely, and with much less loss than my dasher churn. I have used it almost daily for nearly a year, and like it better than any churn I ever used, which has been not a few. It has nothing inside to get dirty, or to be troublesome; each side of the box as it revolves, is the dasher, and the concussion of the milk in the corners and againgst the sides, brings the butter as soon as any other churn. Such is my experience at least.

But to return to the bitter cream—can't *you* make it come? I have tried it in my box churn, and in my dasher churn, and it *wont come* for me. The cream has been handled as during the winter when we had no trouble, yet we may have erred unknowingly. Please point out our error; hoping that you may thereby make us feel more thankful than ever to you and your paper.

Yours truly,

R. S. Lacey.

Harrison Co., March 1862.

Answer.—Do you know the drift of that old English saw—"Carrying coals to New Castle?" Judging by the experience of our correspondent and his well earned reputation as a butter dealer in the city markets, we shall refer the question back to himself for an answer; meanwhile if any of our Dairy readers can help him out of the difficulty, we shall be glad to learn their solution of the mystery. As to the style of churn we have only to say, that near forty years ago we had a tri-weekly exercise of our gifts, at turning just such a box churn as Mr. Lacey describes, except that in the bottom was a slat standing edgewise, one inch from the bottom, and some three inches wide, to break still further the mass of cream. This churn always worked satisfactorily, except when the cream got "bewitched," and then nothing would do.—Ed. *Field Notes.*

For the Ohio Cultivator.

Butter Making and Packing.

Being obliged to compete with some of the Buckeyes in the market of St. Lonis, it may not be amiss to give a short sketch of my success in marketing butter in St. Louis.

I have now for eleven years carried my own and a few of my neighbor's butter to

St. Louis, generally about the last of Nov. I have every year but one obtained for my best butter from 25 to 30c. per pound; this last season I wrote to my customers, that I would take war prices, and would furnish the best for 18¾c. Had I not done so, I could have got 20c. easily, notwithstanding hard times.

The modus operandi of the dairy has been so often described, that I will not here repeat the whole, only calling attention to the most essential points:

1st. It is absolutely necessary to have every article of dairy furniture *clean* and *sweet.*

2nd. When it is too warm weather to place the milk in the buttery, and a good cellar is convenient, it (the cellar) should be free from the least taint of vegetable smell, and ought to be thoroughly cleansed with lime and whitewashed every spring.

3rd. It is best to churn every day. We churn sweet cream. The cream is removed as soon as the milk is loppered or thick.

4th. Use none but the best of salt—"Liverpool blown" or "solar ground"—the common salt has too much lime and will not keep butter sweet. We use about one ounce to the pound.

5th. I do not think the buttermilk can be entirely removed without *washing*, or by too much work with the ladle breaking the small globules and therefore making the butter salvy. Good butter ought to cleave free from the knife, and the brine (which the butter makes itself) should be clear as the purest water.

6th. We use a thermometer churn and churn our cream at a temperature of 60°, and ordinarily are about 20 or 30 minutes churning.

7th. If we by some unforseen circumstances have a soft or indifferent churning, we use it in the family, for we never have any but would be considered very good by most folks.

8th. Fill your firkin as soon as possible, packing very tight, and cover with a clean, damp cloth; put on the cloth half an inch of clean salt, and head up so as to exclude the air. We use white oak firkins, soak them 48 hours, and salt the sides after thoroughly scalding them, before we put in butter. A first rate article of butter will *always* command a good price, and take it all in all, my cows and dairy have made me the best returns of any branch of husbandry I have followed. Butter is almost a necessity, while cheese is by most people considered a luxury. OLD FIRKIN.

The Old Man to His Wife.

BY MRS. EMILY M. PALMER.

Many long years have passed away
Since the day that we were wed,
And fair friends, gay that gladsome day,
Now sleep with the silent dead.
And he who formed the lasting bond
Which linked our lives together,
Is sleeping, too, beneath the yew,
Yet our hearts are true as ever.

We've threaded the thorny, narrow
Of a hurried, changing life;
While Grief and Joy have hovered nigh,
The angels of peace and strife.
False friends have filled our hearts with pain;
With true we've had to sever:
Of toil and care we've borne our share,
Yet our hearts are true as ever.

Now Time has furrowed our youthful brows,
And our heads are silvered o'er;
A few more years, our hopes and fears
Will lead us astray no more.
But Love, our everlasting friend,
Will never leave us,—never;
And when we greet where angels meet,
Our hearts shall be true as ever,

The Star-Thought.

BY H. M. MAURICE.

Sweet Hesperus! I watched thee eve by eve,
As thou didst softly glide adown the west,
Ere yet the gentle stars had taken leave
Of the ethereal couch which they had pressed.

Night after night I saw thy waning eye
Wax tremulous and dim with wavering sheen,
Until had faded from the evening sky
All vestages of eve's once radiant queen.

But soon in th' orient heav'n at early day
I saw thee beam with far more beauteous light,
Adorning with a holier, purer ray
The dawn-departing glories of the night.

Like thine, sweet star, is man's own destiny;
Awile a bright and steady light to show,
But then his fame must pale, and presently
He quiet sinks the tide of life below.

Yet soon he beams forth in a brighter sphere,
With soul intrinsic splendor, ne'er to wane—
Where joys unnumbered cluster round, and where
Undying love and bliss eternal reign.

For the Young Folks.

For the Ohio Cultivator.

Work and Play.

"Oh, dear me! I wish there wasn't any dishes to wash, never in the world," said little Bettie Goodman one bright morning in winter.

"What a wish, Bettie!" said her father looking up from the paper he was reading. "What do you want to do that makes you wish such a wish as that?" "I want to go out and roll snowballs and ride down hill on John's sled."

"Well, suppose you wash the dishes first, will there not be time afterwards?"

"I want to go now," persisted Bettie, "and then I will wash the dishes afterward."

Mrs. Goodman sat by the fire washing and dressing the baby; she was a good mother and knowing that it was best for little girls to learn to work and to do every thing at the right time and in the right way, she was teaching Bettie, though she was very small, (not more than ten years old,) to wash dishes, scour knives, clean the potatoes and turnips for dinner, and do all those things that little girls can do and save good mother a great deal of time and labor. Bettie was a good girl in the main, but now and then she was very unwilling to do her work and would look and act very unhappy.

"I don't see what's the use of washing dishes anyhow," she exclaimed, as she started for the kitchen. "They'll just have to be all washed over again at noon and then at night, and in the morning and at noon and at night, forever and ever."

Mrs. Goodman smiled and would have reproved her for her petulance, but a second thought convinced her this was not best; so she only said to Bettie:—

"Well, Bettie, you may leave the dishes and have your play out this morning, maybe that is the best way; we will try it one day and see."

"Oh! mother, I am so glad, Charley has been teasing me all the morning to come and help him roll a snow-man. Won't we have fun, and the hateful old dishes may just wash themselves, for all I care."

Away ran the happy child for hood, cape and mittens, and soon she was out on the broad slope before the door, rolling up great balls of snows, with might and main.

"Why, mother," said Mr. G., "that's a curious move for you. First you begged Charley off from his task of wood cutting, for his day's play in the garden and now you have yielded to Bettie's importunity. Such a course will soon induce them to think they can put aside duty for pleasure whenever they like."

"We shall see about that" answered Mrs. G. "I have been compelling Charlie and Bettie for some time, and every day they seem to be less and less interested to do as they should. I am trying a new plan today."

Bettie and Charlie had a grand time. They rolled up their snowballs and made their huge snowman and got Peter, the hired man, to lift up the legs and put the body and head on for them, and when he was completed they shouted and laughed and danced around him in great glee. Once Bettie thought of the dishes and said "Let's go in and see if mother wants us now."

But Charley said:

"Oh! not yet. They'll call us when they want us. It isn't but a litte while and we haven't had one slide down hill." So away they both ran to a knoll pulling the sled after them, and seating himself in front of the sled with the rope in his hand, to guide it, Charlie told Bettie to jump on behind and away they went down into the meadow in fine style. This was better than rolling snowballs, so they tugged the sled up to the top and over and over again went flying over the track, till both were completely tired and concluded they wanted some bread and butter, and would go home and do their work.

Oh! they had had such a good play!

But when Bettie ran in to tell her mother about it, there was her father with a plate in his lap eating a cold lunch, and her mother with a bowl of bread and milk, while the breakfast table stood in the middle of

the room just as she left it. Bettie looked up at the clock. It was past dinner time.

"Why, mother," she cried, "have you been to dinner?"

"Oh! no, Bettie. Charley wanted to play before he brought in the wood and water, and you wanted to let the dishes stand; so I could not get dinner without doing his work, nor set the table without washing your dishes. By your not doing your work in season we have all been put out of time. I had all my own work to do and how could I do yours and Charley's too?"

"Mother, I'll wash them all up quick as I can. I did not mean to stay so long." And Bettie's eyes filled with tears as she ran off to the kitchen; but the fire was all out and the dishwater cold. Charley was so tired that he could hardly stagger, and his feet and Bettie's were both wet with snow. Oh! how hard it was to start the fire, and when the dishwater was hot, it took Bettie three times as long to wash the plates clean, (her mother had done all the work but hers.) The boiled egg was all dried on and the knives were rusted so deep that she could not make them look well. Her hands ached, her eyes were heavy, she let one plate fall and broke it in pieces, and then she broke down and cried as hard as she could sob.

Charlie had his wood to chop and bring in for night and then his sheep to feed, and was so tired that he staggered and let his axe glance and cut through his shoe and made the blood run from his big toe, and then he too cried.

Mr. and Mrs. Goodman then seated them by the fire, dressed Charlie's big toe which was only scratched a little, and put dry stockings on both their little feet and they soon fell asleep. She did not scold them one word; but the next morning they did not say one word about playing before they did their work. AUNT FANNY.

A word of kindness is seldom spoken in vain; while witty saying are as easily lost as the pearls slipping from a broken string.

Flattery often makes people *flatter* than they are.

How Children go on at School.

What do the little folks do
Down in the "District Number Two?"
What do they do the livelong day—
Study, or frolic their time away?
Hark! let me tell you what they do
Down in the "District Number Two."

Up in the morning, bright as the sun,
Fresh as a rose, comes each little one.
Swinging their baskets, shouting for joy,
Happy school-girl! merry school-boy!
Now for the lessons!—the master has come!—
A, B, C, D,—B, A, K, E, R.—
"Take the next page." "Master how far?"
"Please get a drink?" "May I go out?"
There! It is recess! up goes the shout!
Snowing, and blowing, and crowing, throwing,
Melting and pelting, freezing and sneezing,
Pattering, clattering, chattering, spattering,
Tumbling and grumbling and stumbling and jumbling and sliding down hill;
Harry, and Carrie, and Freddie, and Neddie,
Jimmy and Timmy, and Mattie and Hattie,
And wild little Will;
That is the way the little folks do
When it is "Recess" at "Number Two."

Playing at marbles, playing at ball,
Or trying the "hardest sums of all."
The "big boys" sit by the stove, or the wall,
X *plus* y and y—z,
Fractions, Equations, and "Rule of Three."
Mary and Sarah, and Helen and Ellen,
Ah, but we beat them, didn't we, spellin'?
Losing, and winning, and chaffing and laughing,
Boasting and roasting, and posting and toasting,
That is the way the "big boys" do
Down in the "District Number Two,"

Recess is over, and each little rover
Runs to his place,
Panting and puffing, from crowing and cuffling,
Wheezing and freezing and teazing and sneezing,
With funny grimace;
While blowing his fingers, one little one lingers,
Last from the chase.
"Now for your books boys—hark!" says the master—
"After your playing you'll learn all the faster."
And into the stove fresh fuel he heaves,
Bustle and rustle, and hustle and tustle,
Turn over the leaves,
Rosy cheeks burning!—ah, now for learning!
That is the way that the little folks do
Down in the "District Number Two."

Little Pilgrim.

As daylight can be seen through very small holes, so little things will illustrate a person's character. Indeed, character consists in little acts, daily life being the quarry from which we build it up, and rough-hew the habits that form and stamp it.

All human virtues increase and strengthen by the experience of them.

CONTENTS.

	Page.
The War and Agriculture	97
A Talk about Farm Barns; Vermont State Ag. Soc..	98
Report on Cattle Disease in Mass	99
The Knee and Fore-Leg of the Horse; Iron Trade in Southern Ohio	100
Cotton Question—Wool	102
Barley—Flax—Sugar—Mustard—Hops—Little Wheels; Osier Willow	103
All about Strawberries; Sick Hen; Long Wool Sheep in Mass	104
The Tree Planters' Convention; Apples	106
Pears—Standard	107
Dwarf Pears—Cherries, Peaches, Grapes, Raspberries	108
Acclimation and Constitution of Fruit Trees—Winter Kill and Canker	109
A Farmers' Orchard—Selection—Pruning—Planting.	110
Apple Tree Borer; Health of Cows	111
Austrian Pine Tree, (Illustrated); Evergreens from Seed	112
EDITOR'S TABLE.	
Flax and Cotton Question	113
Ill. State Fair—Vermont State Fair—Books for Farmers—Plant Fruit Trees and Vines—Sugar Cane Business—Printing—Potatoes	114
Bee-Keeper's Convention in Cleveland	115
Winter Food for Bees—Italian Bees	116
Essay on Orcharding	118
Entomological Events of the Year	120
The Army Worm—The Wheat Midge	121
Time to Prune; Depth of Roots; Earliest known Potatoes; Garden Seeds	122
Coal Oil for Peach Trees; Grafting Grapes; Curious Hanging Basket; Grafting; Early Corn	123
Cream and Churning; Butter Making and Packing	124
The Old Man to his Wife, (Poetry); The Star Tho't, (Poetry)	125
Work and Play for Children	126
How the Children go on at School, (Poetry)	127
Markets, &c	128

MARKETS.

After a careful survey of Produce Market reports from all quarters, we have concluded not to give our usual column of quotations in this No. of the *Cultivator*, from the fact that all the markets remain so nearly at former figures, that quotations would be a useless repetition.

THE NEW YORK LIVE STOCK MARKET was reported last week in a depressed condition, this week the telegraph informs us a of a return to better prices.

Beeves sold nearly half a cent better than last week, with a range from 6 to 9¼c. 3,427 head in market.

Sheep still further advanced, with sales at 3¾ to 7¼c. 4,795 head in market.

Hogs continue steady at 3½ to 4¼c. 15,172 head on sale.

Our domestic market is much the same that it has been all winter. Good table butter has gone up to 18c. Eggs plenty at 9 to 10c.—Chickens 15 to 18c. Clover Seed advanced to $4. Timothy $2. Maple Syrup of fine quality sells at $1 per gallon.

Good Books for Farmers,

All in Embossed Muslin Binding, Gilt Lettered,

Sent by Mail, Post Paid,

From Office of Field Notes and Ohio Cultivator,

ON RECEIPT OF PRICES ANNEXED.

The best farm book of Fowls—
Miner's Domestic Poultry Book. 75c.

The best little book on Fruits—
Gregg's Hand Book of Fruit Culture. 50c.

The best farmer's Garden Book—
Buist's Family Kitchen Gardener. 75c.

The best Housekeeper's Book—
Mrs. Abell's Skillful Housewife. 50c.

The best book on Ditches and Drains—
French's Farm Drainage. $1.00.

The best book on Rural Taste, Architecture, etc.—
Downing's Landscape Gardening. $3.50.

The best book for Registering Blood Stock—
Kills's Blank Stock Register. $1.18.

The best Farm Barn Books—
Allen's Diseases of Domestic Animals. 75c.
Stewart's Stable Economy. $1.00.
Youatt and Martin on Cattle. $1.00.

The best book on handling an training Fruit Trees—
Barry's Fruit Garden. $1.00.

The best book on Diseases and Cure of Cattle—
Dadd's American Cattle Doctor. $1.00.

The best book on Diseases and Cure of Horses—
Dadd's Modern Horse Doctor. $1.00.

The best books on Bee Keeping—
Langstroth on the Honey Bee. $1.00.
Quimby's Mysteries of Bee Keeping. $1.

The best book on Floriculture—
Buist's Flower Garden Directory. $1.00.

The best farmer's book of agricultural Botany—
Darlington's Weeds & Useful Plants. $1.25

The best book of the Farm—
R. L. Allen's American Farm Book. 75c.

The best book on Grape Culture—
J. Fiske Allen on Grape Culture. 75c.

The best book on Small Fruits—
Pardee on the Strawberry, etc., etc. 50c.

CANE SEED FOR SALE.

I HAVE A FEW BUSHELS OF PURE Cane Seed, that I will sell at prices to suit the times. It was raised last year from three year old Seed, consequently it is now the same as the two years old. The Seed was imported by Col. Harris from France, and has been kept pure. I have succeeded the past season in making from Cane raised from the same three old Seed over a thousand pounds of nice sugar. Address

L. C. SMITH,
f10-c4* Hope, Franklin County, Ohio.